FOURTH EDITION

PATIENT ASSESSMENT TUTORIALS

A Step-by-Step Guide for the Dental Hygienist

Wolters Kluwer

Jill S. Gehrig

QUICK FIND GUIDE

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MODULE 2 MAKING OUR WORDS UNDERSTANDABLE
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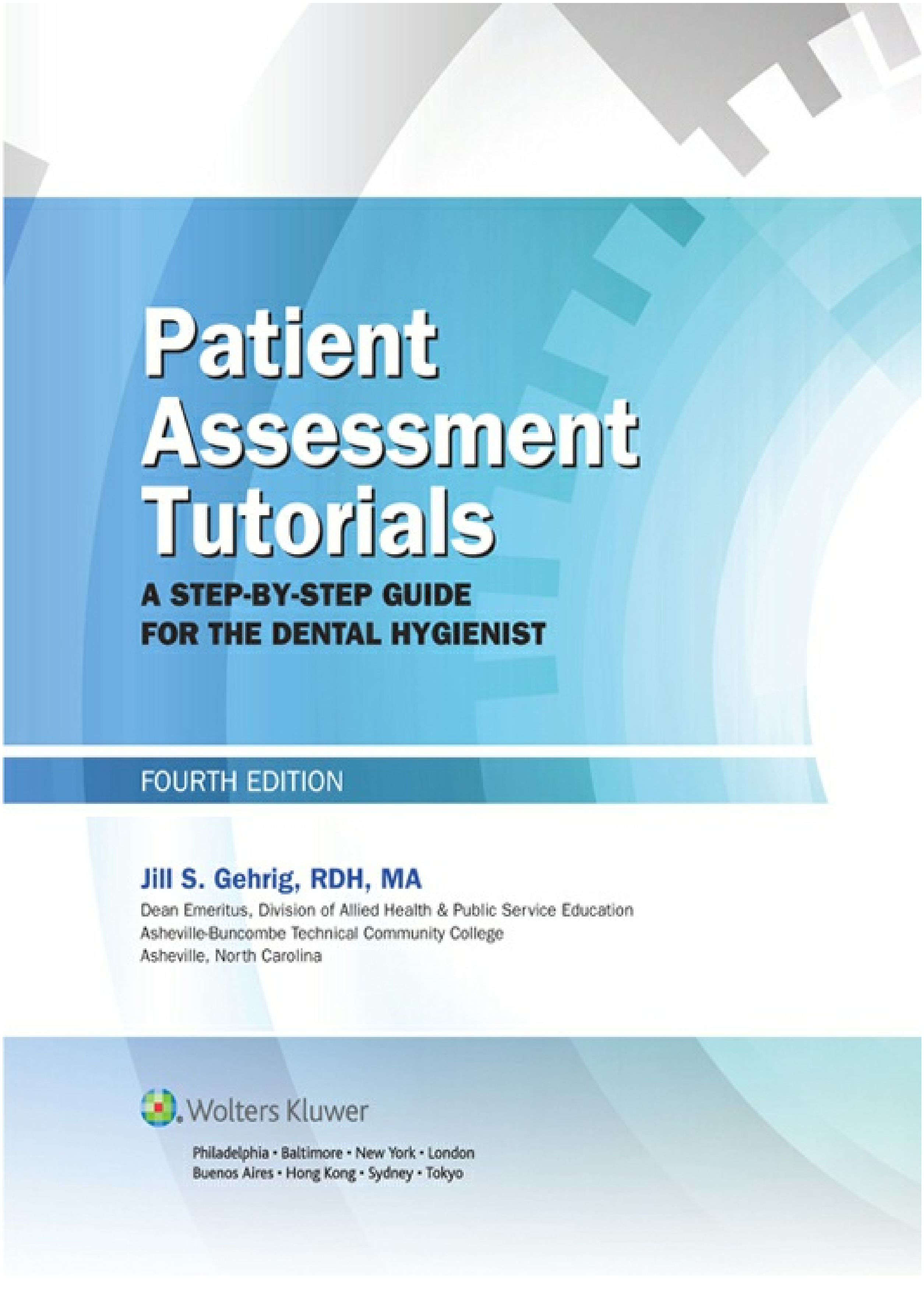

Patient Assessment Tutorials

A STEP-BY-STEP GUIDE FOR THE DENTAL HYGIENIST

FOURTH EDITION

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PREFACE FOR COURSE INSTRUCTORS

Patient Assessment Tutorials: A Step-by-Step Guide for the Dental Hygienist, Fourth Edition, is a detailed instructional guide to patient assessment procedures. *Tutorials* is unique in two regards: First, the "Peak Procedures" sections teach the "how to" of patient assessment procedures in a clear step-by-step manner; and second, *Tutorials* places a unique emphasis on the human element of patient assessment. Content on the human interaction aspect of patient assessment includes four chapters on communication and information gathering techniques as well as the Human Element sections and communication role-plays throughout the book.

Patient Assessment Tutorials is designed for student use in two settings. Initially, the modules are designed to guide student practice of assessment and communication techniques in preclinical and clinical settings. Later, the Ready References from the modules—when laminated and assembled in a notebook—create a reference book that provides quick access to information during patient treatment.

Online Features

Patient Assessment Tutorials includes online resources for both instructors and students that are available on the book's companion website, thePoint.

ONLINE INSTRUCTOR RESOURCES

Approved adopting instructors will be given access to the following additional resources:

- Image Bank

- PowerPoint Presentations
- Test Bank Questions
- Video clip that allows students to hear the Korotkoff sounds and practice recording blood pressure readings
- Video clips showing proper head, neck, and oral examination techniques
- Morita CBCT Viewer
- Practical Focus Case Studies, Patient Case Studies, and Active Learning Cases
- Role-Playing Exercises
- Instructions on how to use the textbook and instructor resources
- WebCT- and Blackboard-ready cartridges

ONLINE STUDENT RESOURCES

See the inside front cover of this text for more details, including the passcode needed to gain access to the website. Students who have purchased *Patient Assessment Tutorials*, Fourth Edition, have access to the following additional resources:

- Video clip that allows students to hear the Korotkoff sounds and practice recording blood pressure readings
- Video clips showing proper head, neck, and oral examination techniques
- Morita CBCT Viewer
- A searchable online version of the full text

Book Features

Patient Assessment Tutorials: A Step-by-Step Guide for the Dental Hygienist has many features designed to facilitate learning and teaching.

1. **Module Overview and Outline.** Each module begins with a concise overview of the module content. The module outline makes it easier to locate material within the chapter. The outline provides the reader with an organizational framework with which to approach new material. Learning objectives assist students in recognizing and studying important concepts in each chapter.

2. **Peak Procedures.** Step-by-step instructions are provided for each patient assessment procedure.
   - For students, the “Peak Procedures” section provides a straightforward, step-by-step guide for practicing and perfecting assessment techniques. The self-instructional format allows the learner to work independently—fostering student autonomy and decision-making skills.
   - For educators, the “Peak Procedures” section provides a reliable, evidence-based blueprint for the standardization of faculty members in the instruction and evaluation of patient assessment procedures.
3. **The Human Element.** This module feature focuses on the “people part” of patient assessment. Students, patients, and experienced clinicians were invited to share their experiences in this section of the modules. The features *Through the Eyes of a Student* and *Through the Eyes of a Patient* features speak to the human element of the assessment process. In these real-life accounts, students share their struggles and triumphs with patient assessment procedures. Patient accounts evoke empathy and pride in the impact of caregiving.

   Patient and *Communication Scenarios* and *Ethical Dilemmas* allow students to develop important communication skills.
4. **Ready References.** The Ready References provide rapid access to important information on each assessment topic. For example, there is a Ready Reference with the most commonly prescribed medications. The Ready Reference features are designed to be removed from the book, laminated or placed in plastic page protectors, and assembled in a notebook for use in the clinical setting.
5. **English-to-Spanish Phrase Lists.** As the Spanish-speaking population increases, clinicians encounter growing numbers of Spanish-speaking patients in dental clinics and offices. Teaching students to pronounce and speak Spanish is well beyond the scope of this book and indeed, beyond the scope of most professional curriculums. For those times when a trained translator is not available, however, the modules include

English-to-Spanish phrase lists with phrases pertinent to the assessment process. To use these phrase lists, the student clinician simply points to a specific phrase in the list to facilitate communication with a Spanish-speaking patient.

6. **Fictitious Patient Cases A to E.** Fictitious patient cases A to E promote the student's application of chapter information to patient care, much in the same way that he or she needs to do when caring for a real patient. With each module, more information is revealed about each patient's assessment findings. For example, Module 5 reveals the medical histories of fictitious patients A to E. Module 10 provides the patients' blood pressure readings. This progressive disclosure of assessment findings parallels the manner in which students collect information on a patient in the clinical setting, gleaning new nuggets of information with each assessment procedure performed. In each module, the student is asked to interpret the assessment findings revealed in the module, relate it to information about the patient from previous chapters, and make decisions about patient care based on these assessment findings.
7. **Skill Check.** The module skill evaluation procedure checklists allow a student to self-evaluate his or her strengths and limitations in performing the assessment procedure and to identify additional learning needs. The checklists also provide benchmarks for instructor evaluation of student skill proficiency.

   Suggestions for communication role-plays are available on the book's companion website, thePoint. Refer to inside cover page for details on accessing online resources. Communication checklists in the modules allow students to practice and self-evaluate their communication skills and to identify areas for improvement. The checklists also provide benchmarks for instructor evaluation of student skill proficiency in communicating with patients.
8. **Terminology and Glossary of Terms.** Terminology pertinent to patient assessment is highlighted in bold type and clearly defined within each module. The Glossary in the back of the book provides quick access to

terminology.

9. **Comprehensive Fictitious Patient Cases F to K.** Module 18 of the book is composed of comprehensive patient cases. This module presents six entirely new comprehensive patient cases. Patient assessment data is presented for each patient, and the student is challenged to interpret and use this assessment information in care planning for the patient.

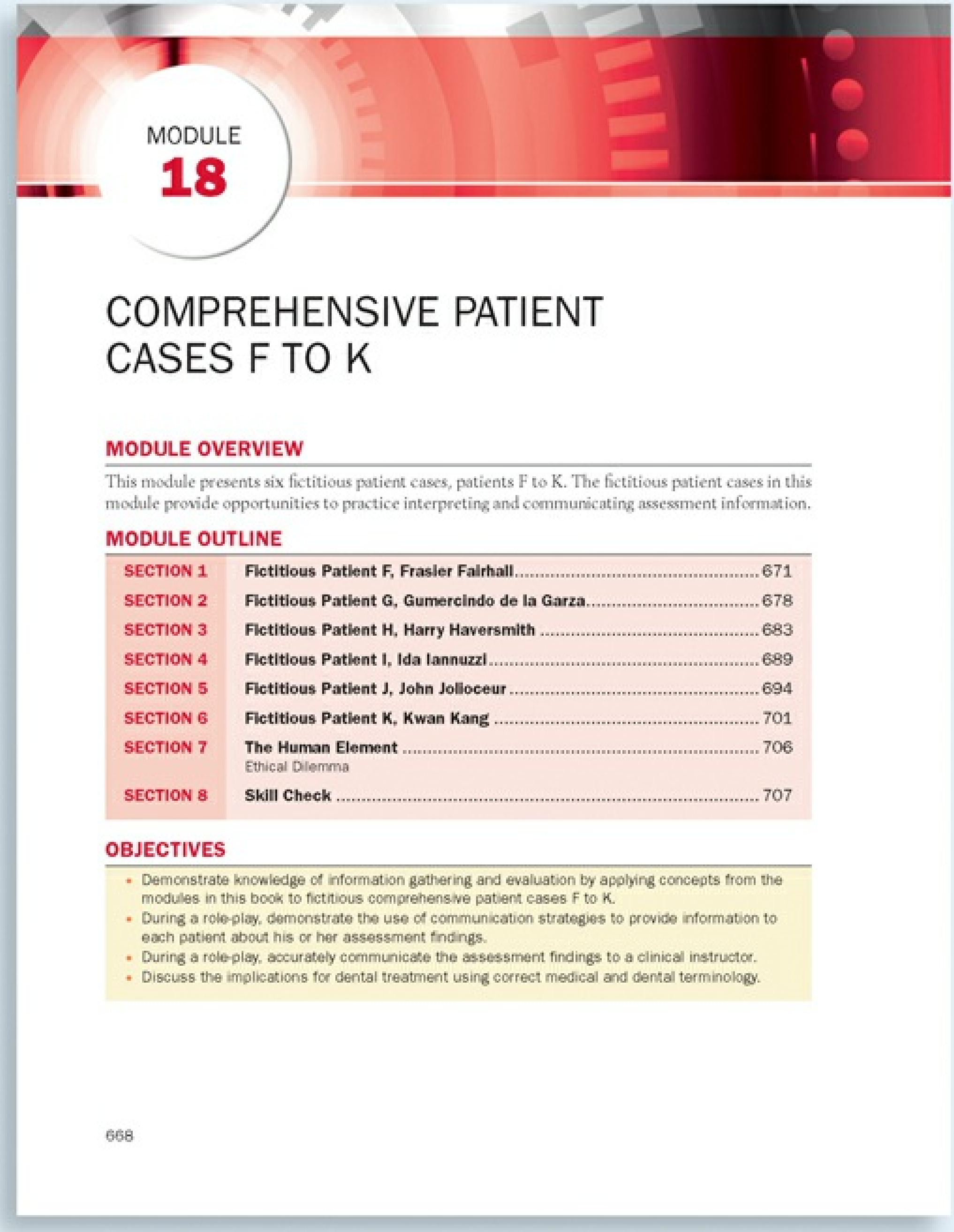
USER’S GUIDE

The ability to accurately assess patients is vital to the practice of dental hygiene—a complete and accurate assessment is the starting point to providing thorough patient care. ***Patient Assessment Tutorials: A Step-by-Step Guide for the Dental Hygienist*** takes you through the process of patient assessment and provides you with information on both the actual physical assessment as well as effective patient communication. The highly visual, step-by-step style teaches you vital assessment processes quickly and thoroughly.

You’ll Find These Great Features in the Text

Module Overviews—Module Outlines—Objectives

Give an orientation to the information in the chapter and what you are expected to know after reading the chapter material.



MODULE
18

COMPREHENSIVE PATIENT CASES F TO K

MODULE OVERVIEW

This module presents six fictitious patient cases, patients F to K. The fictitious patient cases in this module provide opportunities to practice interpreting and communicating assessment information.

MODULE OUTLINE

SECTION 1 Fictitious Patient F, Frasier Fairhall 671
SECTION 2 Fictitious Patient G, Gumercindo de la Garza 678
SECTION 3 Fictitious Patient H, Harry Haversmith 683
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SECTION 6 Fictitious Patient K, Kwan Kang 701
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Ethical Dilemma
SECTION 8 Skill Check 707

OBJECTIVES

- Demonstrate knowledge of information gathering and evaluation by applying concepts from the modules in this book to fictitious comprehensive patient cases F to K.
- During a role-play, demonstrate the use of communication strategies to provide information to each patient about his or her assessment findings.
- During a role-play, accurately communicate the assessment findings to a clinical instructor.
- Discuss the implications for dental treatment using correct medical and dental terminology.

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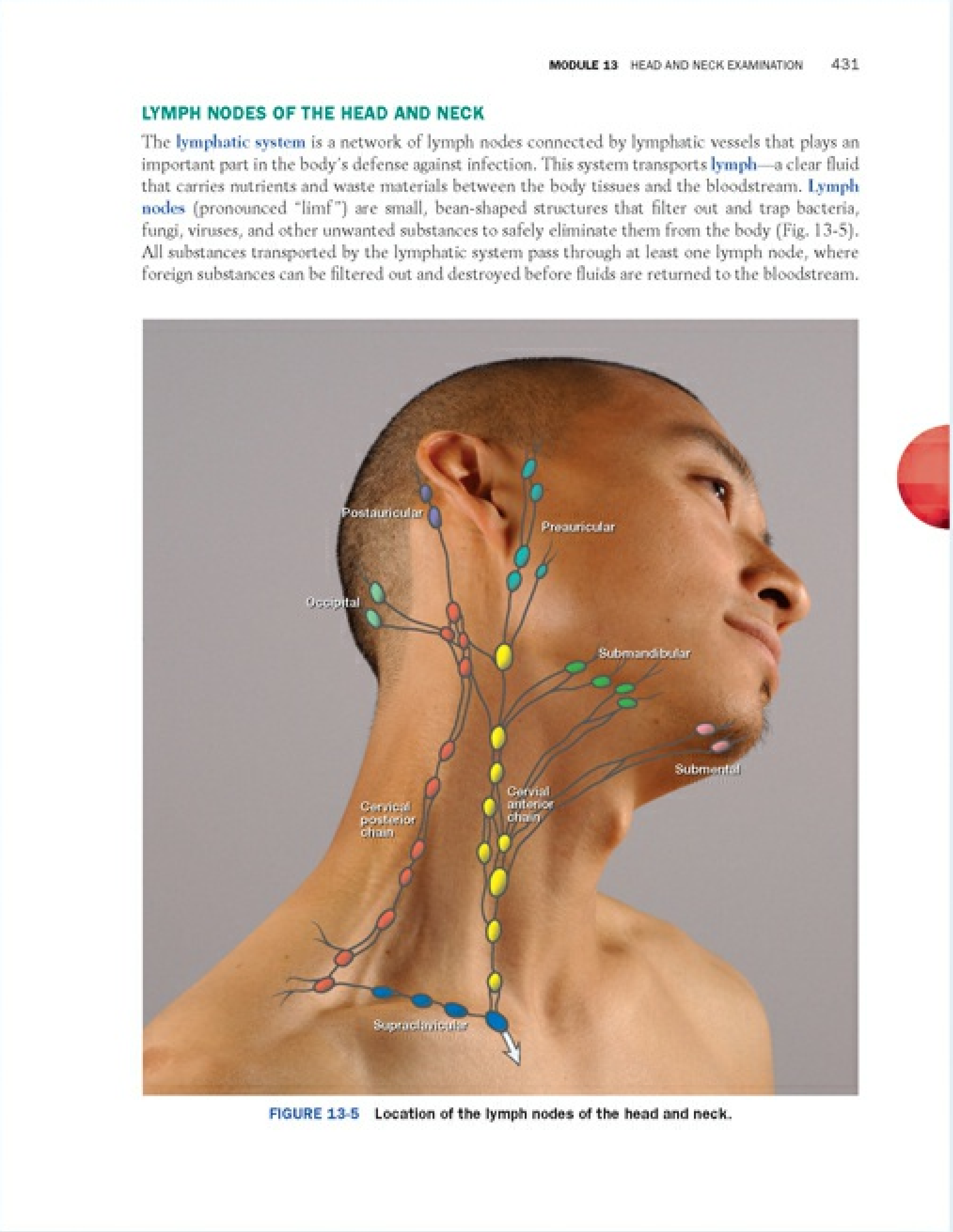
Detailed Illustrations and Photographs

Bring the material in the book to life and help to visually guide you through the patient assessment process.



MODULE 13 HEAD AND NECK EXAMINATION 431

LYMPH NODES OF THE HEAD AND NECK

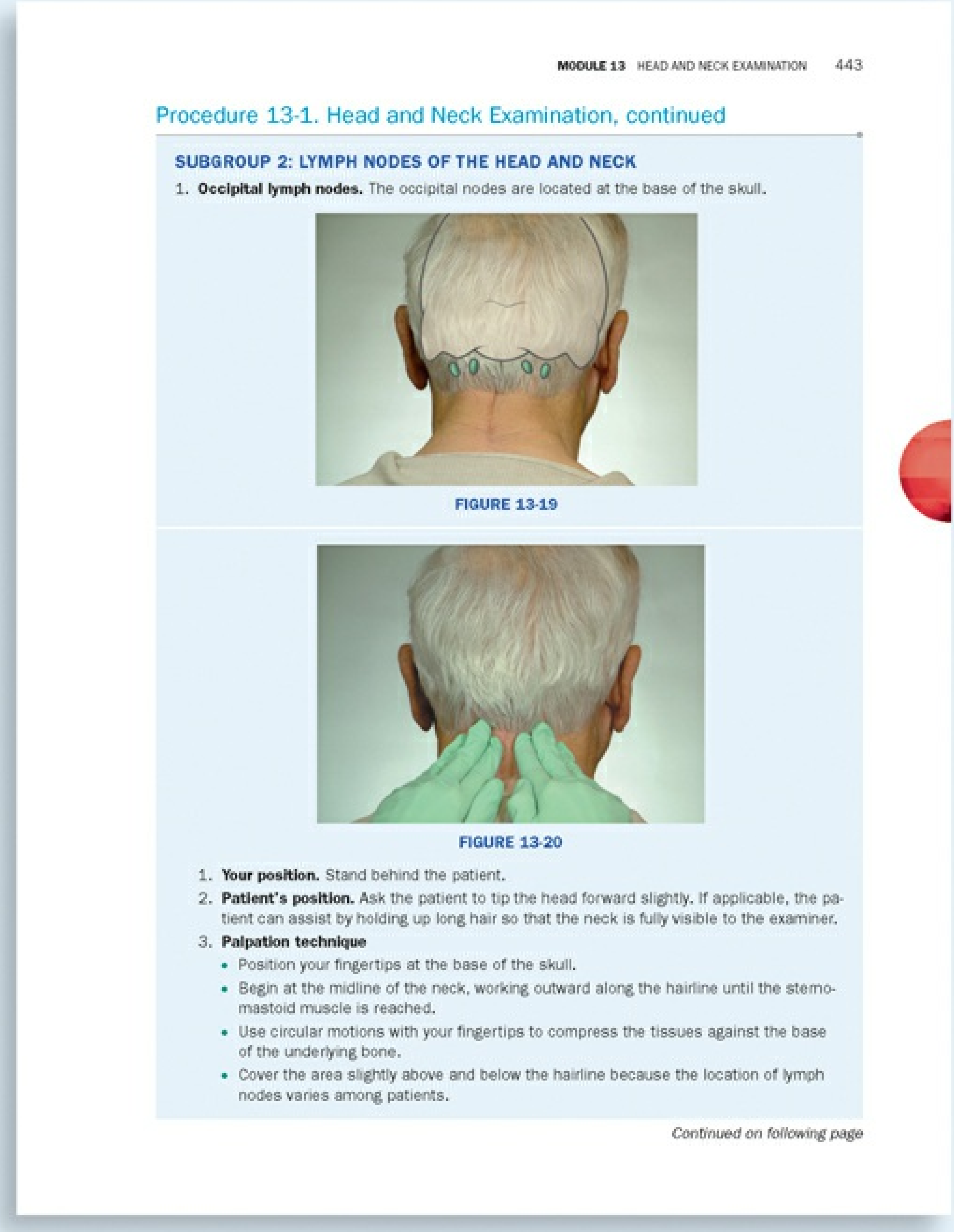
The **lymphatic system** is a network of lymph nodes connected by lymphatic vessels that plays an important part in the body's defense against infection. This system transports **lymph**—a clear fluid that carries nutrients and waste materials between the body tissues and the bloodstream. **Lymph nodes** (pronounced "limf") are small, bean-shaped structures that filter out and trap bacteria, fungi, viruses, and other unwanted substances to safely eliminate them from the body (Fig. 13-5). All substances transported by the lymphatic system pass through at least one lymph node, where foreign substances can be filtered out and destroyed before fluids are returned to the bloodstream.

Postauricular
Preauricular
Occipital
Submandibular
Submental
Cervical posterior chain
Cervial anterior chain
Supraclavicular

FIGURE 13-5 Location of the lymph nodes of the head and neck.

Procedure Boxes

Outline procedures in an easy-to-follow, step-by-step format. Lists of necessary equipment and a rationale for each step are also provided.



MODULE 13 HEAD AND NECK EXAMINATION 443

Procedure 13-1. Head and Neck Examination, continued

SUBGROUP 2: LYMPH NODES OF THE HEAD AND NECK

1. **Occipital lymph nodes.** The occipital nodes are located at the base of the skull.

FIGURE 13-19

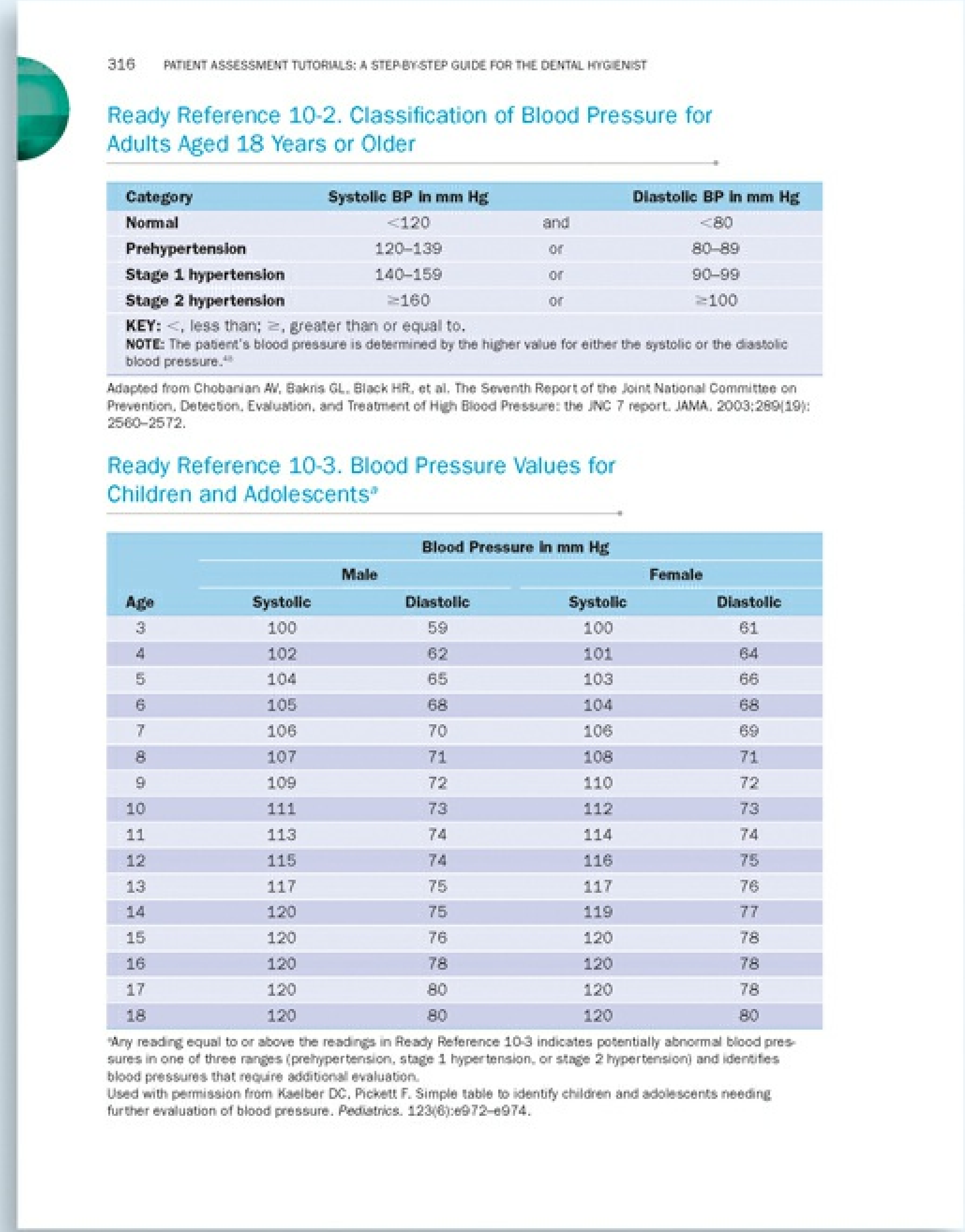
FIGURE 13-20

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Ask the patient to tip the head forward slightly. If applicable, the patient can assist by holding up long hair so that the neck is fully visible to the examiner.
3. **Palpation technique**
   - Position your fingertips at the base of the skull.
   - Begin at the midline of the neck, working outward along the hairline until the sternomastoid muscle is reached.
   - Use circular motions with your fingertips to compress the tissues against the base of the underlying bone.
   - Cover the area slightly above and below the hairline because the location of lymph nodes varies among patients.

Continued on following page

Ready References

Provide vital information for use during the patient assessment process. Ready Reference pages can be removed from the book. Laminating or placing pages in plastic sleeves will make them ready to use in a clinical setting.



Ready Reference 10-2. Classification of Blood Pressure for Adults Aged 18 Years or Older

Category	Systolic BP in mm Hg		Diastolic BP in mm Hg
Normal	<120	and	<80
Prehypertension	120–139	or	80–89
Stage 1 hypertension	140–159	or	90–99
Stage 2 hypertension	≥160	or	≥100

KEY: <, less than; ≥, greater than or equal to.

NOTE: The patient's blood pressure is determined by the higher value for either the systolic or the diastolic blood pressure.[48]

Adapted from Chobanian AV, Bakris GL, Black HR, et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. JAMA. 2003;289(19): 2560–2572.

Ready Reference 10-3. Blood Pressure Values for Children and Adolescents[a]

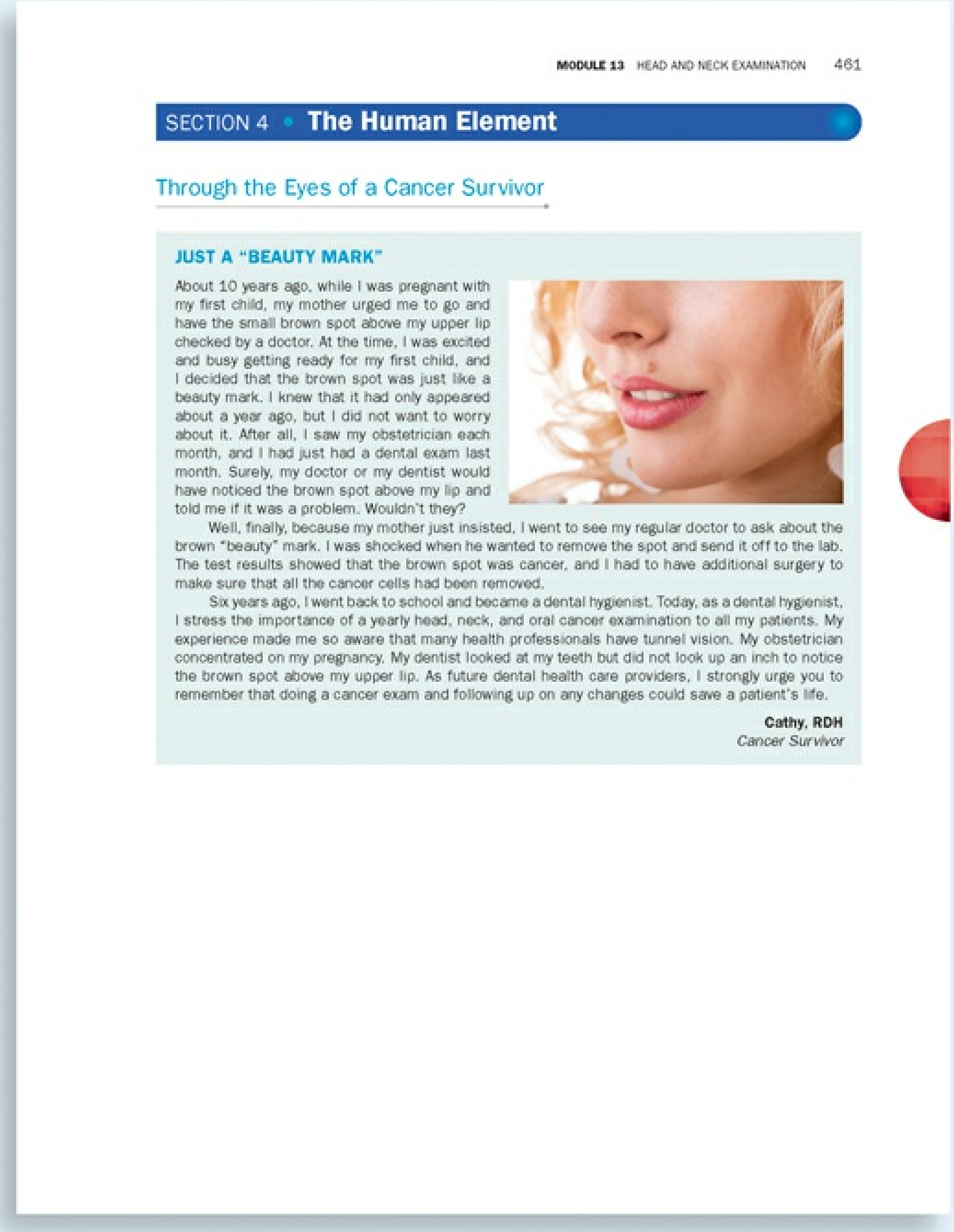
	Blood Pressure in mm Hg			
	Male		Female	
Age	Systolic	Diastolic	Systolic	Diastolic
3	100	59	100	61
4	102	62	101	64
5	104	65	103	66
6	105	68	104	68
7	106	70	106	69
8	107	71	108	71
9	109	72	110	72
10	111	73	112	73
11	113	74	114	74
12	115	74	116	75
13	117	75	117	76
14	120	75	119	77
15	120	76	120	78
16	120	78	120	78
17	120	80	120	78
18	120	80	120	80

[a] Any reading equal to or above the readings in Ready Reference 10-3 indicates potentially abnormal blood pressures in one of three ranges (prehypertension, stage 1 hypertension, or stage 2 hypertension) and identifies blood pressures that require additional evaluation.

Used with permission from Kaelber DC, Pickett F. Simple table to identify children and adolescents needing further evaluation of blood pressure. *Pediatrics*. 123(6):e972–e974.

The Human Element

Case studies and personal experiences of other students and hygienists relate to the chapter content and explain why each assessment procedure is clinically relevant to dental hygiene practice.



MODULE 13 HEAD AND NECK EXAMINATION 461

SECTION 4 • The Human Element

Through the Eyes of a Cancer Survivor

JUST A "BEAUTY MARK"

About 10 years ago, while I was pregnant with my first child, my mother urged me to go and have the small brown spot above my upper lip checked by a doctor. At the time, I was excited and busy getting ready for my first child, and I decided that the brown spot was just like a beauty mark. I knew that it had only appeared about a year ago, but I did not want to worry about it. After all, I saw my obstetrician each month, and I had just had a dental exam last month. Surely, my doctor or my dentist would have noticed the brown spot above my lip and told me if it was a problem. Wouldn't they?

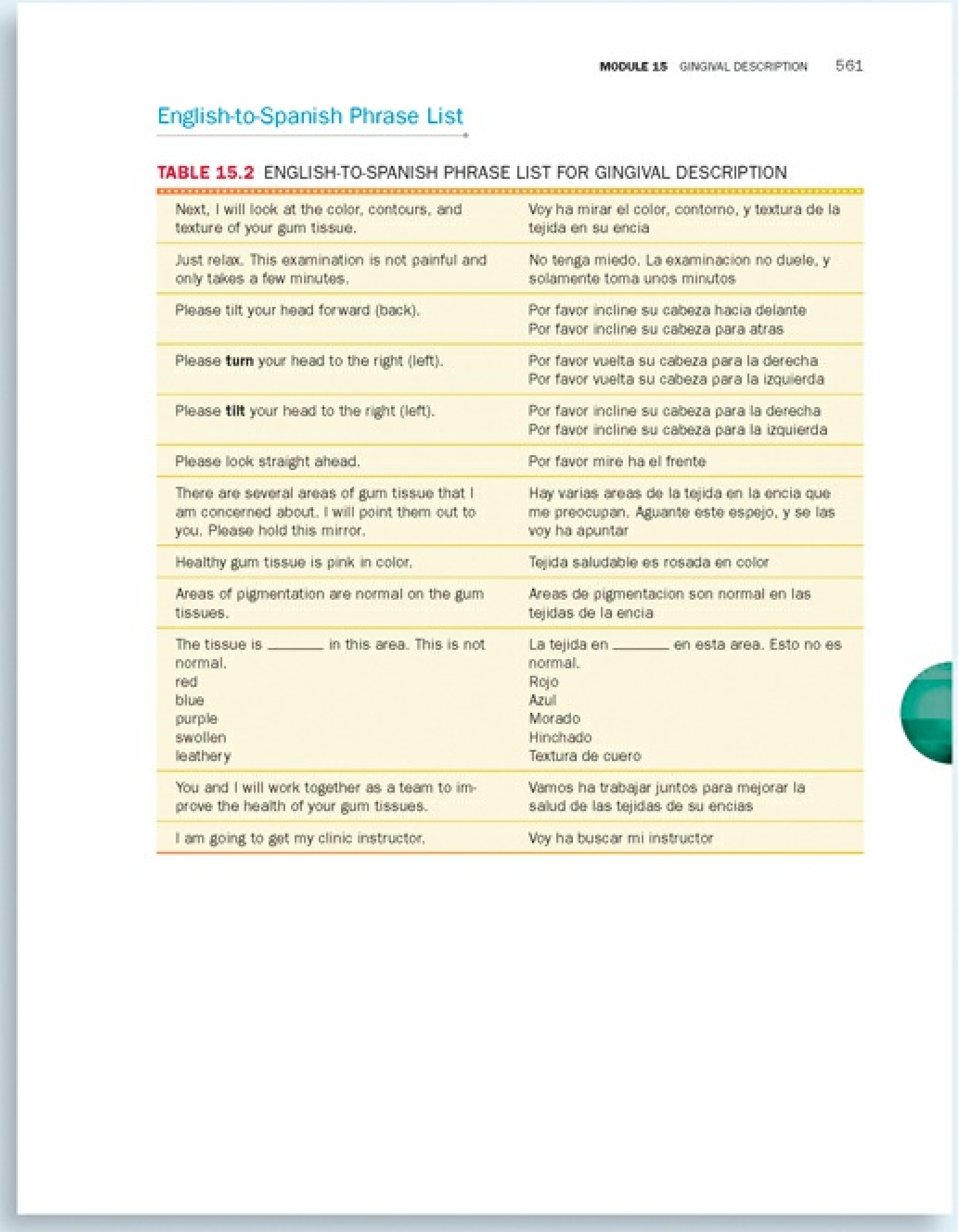
Well, finally, because my mother just insisted, I went to see my regular doctor to ask about the brown "beauty" mark. I was shocked when he wanted to remove the spot and send it off to the lab. The test results showed that the brown spot was cancer, and I had to have additional surgery to make sure that all the cancer cells had been removed.

Six years ago, I went back to school and became a dental hygienist. Today, as a dental hygienist, I stress the importance of a yearly head, neck, and oral cancer examination to all my patients. My experience made me so aware that many health professionals have tunnel vision. My obstetrician concentrated on my pregnancy. My dentist looked at my teeth but did not look up an inch to notice the brown spot above my upper lip. As future dental health care providers, I strongly urge you to remember that doing a cancer exam and following up on any changes could save a patient's life.

Cathy, RDH
Cancer Survivor

English-to-Spanish Phrase Lists

These phrase lists facilitate communication with Spanish-speaking patients.



MODULE 15 GINGIVAL DESCRIPTION 561

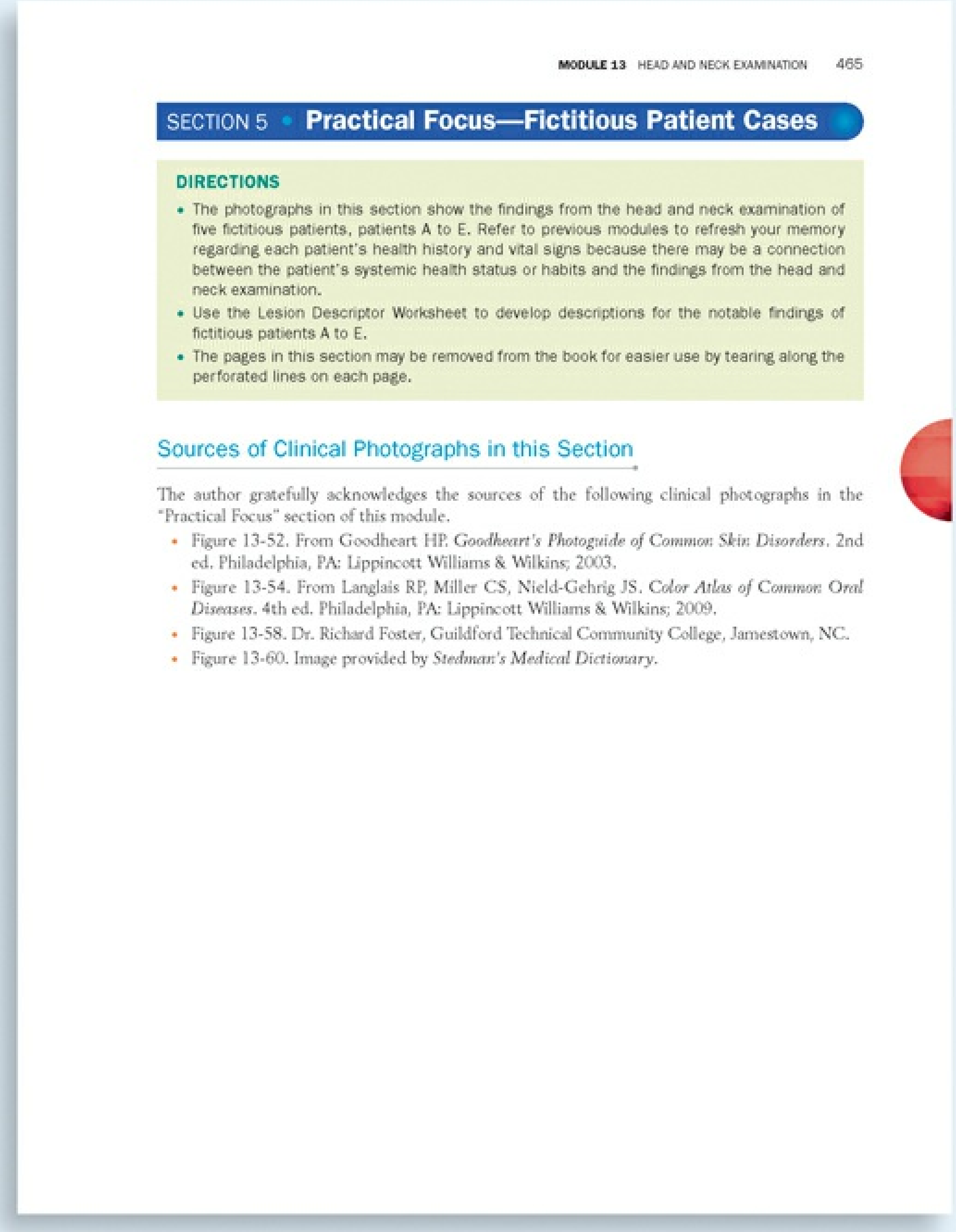
English-to-Spanish Phrase List

TABLE 15.2 ENGLISH-TO-SPANISH PHRASE LIST FOR GINGIVAL DESCRIPTION

Next, I will look at the color, contours, and texture of your gum tissue.	Voy ha mirar el color, contorno, y textura de la tejida en su encia
Just relax. This examination is not painful and only takes a few minutes.	No tenga miedo. La examinacion no duele, y solamente toma unos minutos
Please tilt your head forward (back).	Por favor incline su cabeza hacia delante Por favor incline su cabeza para atras
Please **turn** your head to the right (left).	Por favor vuelta su cabeza para la derecha Por favor vuelta su cabeza para la izquierda
Please **tilt** your head to the right (left).	Por favor incline su cabeza para la derecha Por favor incline su cabeza para la izquierda
Please look straight ahead.	Por favor mire ha el frente
There are several areas of gum tissue that I am concerned about. I will point them out to you. Please hold this mirror.	Hay varias areas de la tejida en la encia que me preocupan. Aguante este espejo, y se las voy ha apuntar
Healthy gum tissue is pink in color.	Tejida saludable es rosada en color
Areas of pigmentation are normal on the gum tissues.	Areas de pigmentacion son normal en las tejidas de la encia
The tissue is _______ in this area. This is not normal. red blue purple swollen leathery	La tejida en _______ en esta area. Esto no es normal. Rojo Azul Morado Hinchado Textura de cuero
You and I will work together as a team to improve the health of your gum tissues.	Vamos ha trabajar juntos para mejorar la salud de las tejidas de su encias
I am going to get my clinic instructor.	Voy ha buscar mi instructor

Practical Focus Cases

Case studies present you with a clinical scenario. Questions at the end of these sections require you to think critically about the situation and apply the information you have learned.



MODULE 13 HEAD AND NECK EXAMINATION 465

SECTION 5 • Practical Focus—Fictitious Patient Cases

DIRECTIONS

- The photographs in this section show the findings from the head and neck examination of five fictitious patients, patients A to E. Refer to previous modules to refresh your memory regarding each patient's health history and vital signs because there may be a connection between the patient's systemic health status or habits and the findings from the head and neck examination.
- Use the Lesion Descriptor Worksheet to develop descriptions for the notable findings of fictitious patients A to E.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

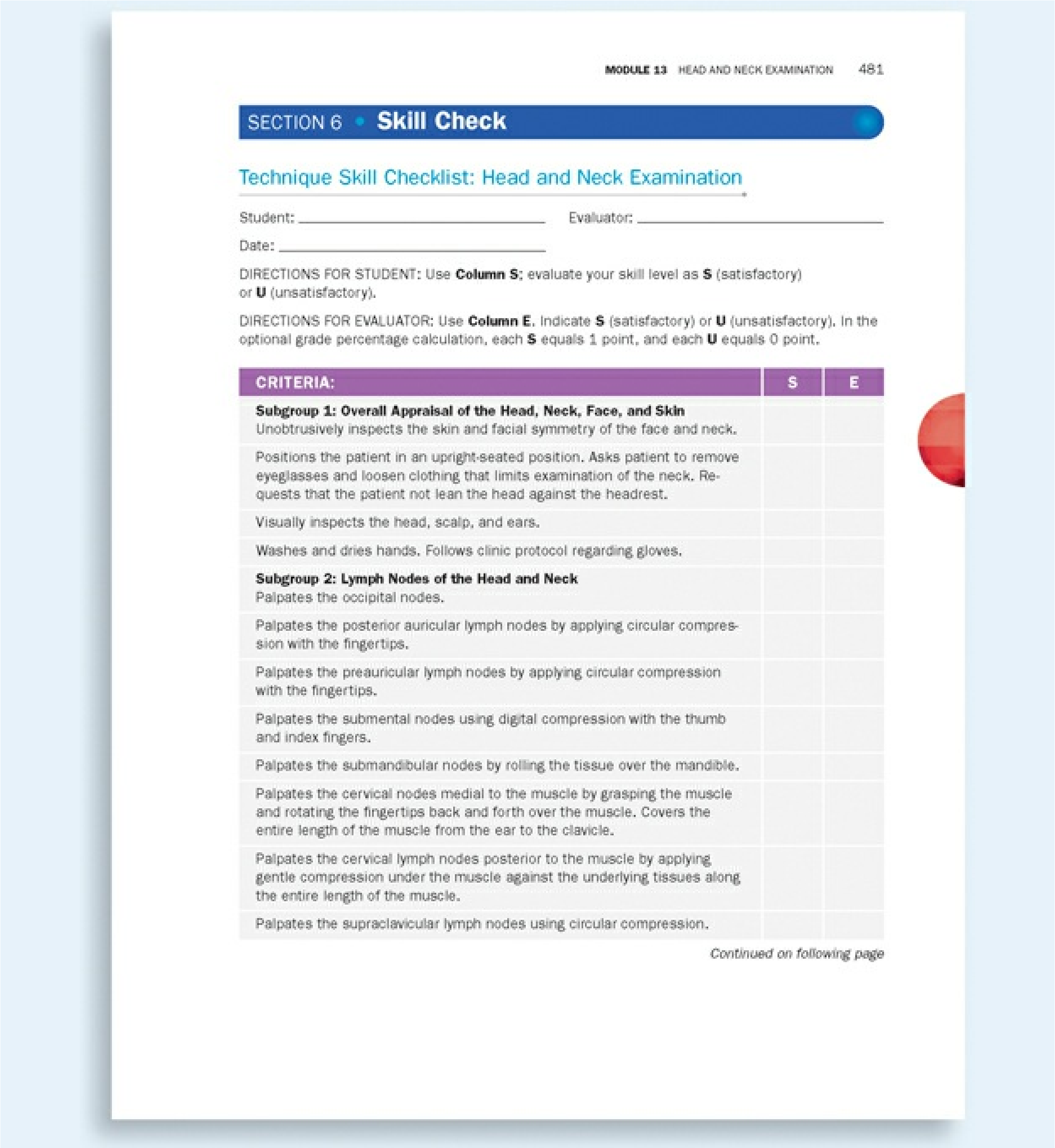
Sources of Clinical Photographs in this Section

The author gratefully acknowledges the sources of the following clinical photographs in the "Practical Focus" section of this module.

- Figure 13-52. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 13-54. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 13-58. Dr. Richard Foster, Guildford Technical Community College, Jamestown, NC.
- Figure 13-60. Image provided by *Stedman's Medical Dictionary*.

Skill Checks

Assess your understanding and ability to perform the skills presented in the chapter.



SECTION 6 • **Skill Check**

Technique Skill Checklist: Head and Neck Examination

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Subgroup 1: Overall Appraisal of the Head, Neck, Face, and Skin Unobtrusively inspects the skin and facial symmetry of the face and neck.		
Positions the patient in an upright-seated position. Asks patient to remove eyeglasses and loosen clothing that limits examination of the neck. Requests that the patient not lean the head against the headrest.		
Visually inspects the head, scalp, and ears.		
Washes and dries hands. Follows clinic protocol regarding gloves.		
Subgroup 2: Lymph Nodes of the Head and Neck Palpates the occipital nodes.		
Palpates the posterior auricular lymph nodes by applying circular compression with the fingertips.		
Palpates the preauricular lymph nodes by applying circular compression with the fingertips.		
Palpates the submental nodes using digital compression with the thumb and index fingers.		
Palpates the submandibular nodes by rolling the tissue over the mandible.		
Palpates the cervical nodes medial to the muscle by grasping the muscle and rotating the fingertips back and forth over the muscle. Covers the entire length of the muscle from the ear to the clavicle.		
Palpates the cervical lymph nodes posterior to the muscle by applying gentle compression under the muscle against the underlying tissues along the entire length of the muscle.		
Palpates the supraclavicular lymph nodes using circular compression.		

Continued on following page

ACKNOWLEDGMENTS

I am extremely grateful to my many colleagues who have contributed to the completion of this project. Without their contributions, this textbook would not have been possible. Our thanks to all who generously gave their time, ideas, and resources and gratefully acknowledge the special contributions of the following individuals:

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- **Kevin Dietz**, colleague and friend, for his vision and guidance for this book.
- And finally, and with great thanks, my wonderful team at Wolters Kluwer, without whose guidance and support this book would not have been possible: **Jonathan Joyce**, **John Larkin**, and **Jennifer Clements**.

Jill S. Gehrig

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Patient-Centered Communication
The Impact of Electronic Records on Communication
Difficult Conversations with Patients
The Human Element
Skill Check

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JILL S. GEHRIG
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Making Health Care Words Understandable
Using the Internet to Improve Communication Skills
The Human Element
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ETHICAL DILEMMAS
ROBIN B. MATLOFF

thePoint: ONLINE RESOURCES
AURORA M. GRAVES DEMARCO, MELANY F. THIEN, SHARON LOGUE, ROBIN B. MATLOFF, REBECCA SRODA, AND RICHARD FOSTER

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PART 1

Communication Techniques for Assessment

MODULE

1

COMMUNICATION SKILLS FOR ASSESSMENT

thePoint For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

Clear communication provides the foundation for the patient assessment procedures from history taking to explaining assessment findings to the patient. Being able to communicate effectively—or participate in the exchange of information—is an essential skill for dental health care providers.

To a great extent, the patient's satisfaction with dental care is determined by the dental health care provider's ability and willingness to communicate and empathize with patient needs and expectations. Good communication during the assessment process sets the tone for quality care and loyal patients.

This module summarizes techniques for—as well as obstacles to—effective communication during the patient assessment process.

MODULE OUTLINE

SECTION 1

The Communication Process

What Is Communication?
Ineffective Communication
Effective Communication
Communication Filters
Nonverbal Communication
First Impressions
Use of Space
Touch as Nonverbal Communication
Empathy

SECTION 2

The Patient–Hygienist Relationship

The Nature of the Helping Relationship
Patients’ Rights in the Helping Relationship
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SECTION 3

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SECTION 4

The Impact of Electronic Records on Communication

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Improved Communication with Standardized Nomenclature

SECTION 5 **Difficult Conversations with Patients**
Communication in a Difficult Patient Encounter
Sharing Bad News

SECTION 6 **The Human Element**
Through the Eyes of a Patient
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SECTION 7 **Skill Check**

KEY TERMS

Communication • **Personal filters** • **Verbal communication** • **Nonverbal communication** • **Stereotypes** • **Proxemics** • **Personal space** • **Territory** • **Low-contact cultures** • **High-contact cultures** • **Empathy** • **Diplomacy** • **Helping relationship** • **Paternalism** • **Patient-centered care** • **Finding the problem** • **Fixing the problem** • **Engagement** • **Education** • **Enlistment** • **Patient-centered communication** • **Closed questions** • **Open-ended questions** • **Electronic dental record** • **Systematized Nomenclature of Medicine—Clinical Terms (SNOMED CT)** • **Systematized Nomenclature of Dentistry (SNODENT)**

OBJECTIVES

- Define communication and describe the communication process.
- Describe how ineffective communication hinders the provision of quality dental care.
- Describe the two major forms of communication and give examples of each.
- Discuss techniques that promote effective communication.
- Understand the role of effective communication in the provision of quality dental care.
- List and describe three ways in which people communicate nonverbally.

- Explain why appearance can often lead to incorrect assumptions about an individual.
- Identify the purpose of the patient–hygienist relationship.
- Discuss patients’ rights as consumers of dental health care services.
- Define patient-centered care.
- Identify patient-centered communication techniques.
- Define bad news.
- During role-plays or in the clinical setting, demonstrate the SPIKES model communication strategy when sharing bad news with a patient.
- Describe how a nomenclature system, such as SNODENT, may improve communication between clinicians and different settings (offices).
- Develop improved clinical communication skills and the ability to role model those skills through simulated patient scenarios.

SECTION 1 • The Communication Process

What Is Communication?

Communication is the exchange of information between individuals. The word “exchange” is essential to understanding the act of communicating. The process of communication is an ***exchange of information*** that moves back and forth between two people. A dental health care provider must be a successful communicator, both as a sender and receiver of information. Communication with a patient not only involves telling the person something (sending information) but also is about listening to the patient’s response—receiving information—in return. The understanding of how to convey and interpret meaning is essential for effective communication. In the context of dental care, communication’s primary function is to establish understanding between the patient and dental health care provider.

Ineffective Communication

There are always at least two parties involved in any communication. Communication blocks can occur when the clinician assumes that the patient knows what he or she is thinking (Fig. 1-1). (The patient **should know** that the health history is important, **shouldn't he**?) Box 1-1 shows examples of the impact of poor patient communication.

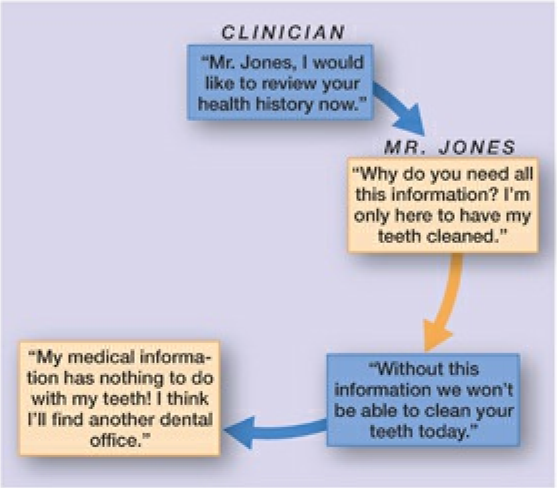

CLINICIAN
"Mr. Jones, I would like to review your health history now."
MR. JONES
"Why do you need all this information? I'm only here to have my teeth cleaned."
"Without this information we won't be able to clean your teeth today."
"My medical information has nothing to do with my teeth! I think I'll find another dental office."

FIGURE 1-1 **Ineffective flow of communication.** The assumption that the patient knows what the clinician knows—such as why an accurate health history is important—presents a major roadblock to effective communication.

BOX
1-1

The Impact of Poor Patient Communication

POOR COMMUNICATION

- Decreases the patient's confidence and trust in dental care
- Deters the patient from revealing important information
- Leads to the patient not seeking further care
- Leads to misunderstandings
- Leads to the misinterpretation of advice
- Underlies most patient complaints

These difficulties may lead to poor or suboptimal dental health for the patient.

Effective Communication

Being a good listener is key to interacting and responding to the patient in a manner that conveys empathy for as well as interest in his or her concerns. A successful communication begins by recognizing the patient's needs and concerns (Fig. 1-2). Box 1-2 shows examples of the benefits of effective communication.

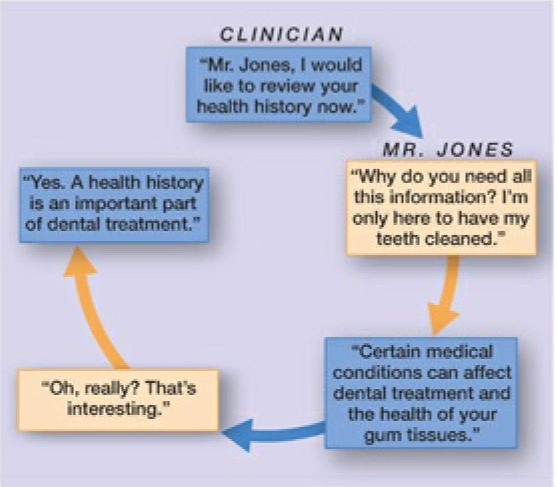

CLINICIAN
"Mr. Jones, I would like to review your health history now."
MR. JONES
"Why do you need all this information? I'm only here to have my teeth cleaned."
"Certain medical conditions can affect dental treatment and the health of your gum tissues."
"Oh, really? That's interesting."
"Yes. A health history is an important part of dental treatment."

FIGURE 1-2 **Effective flow of communication.** Communication is most effective when the clinician uses words that the patient will understand and listens carefully to the patient's responses or questions.

BOX **1-2**

The Benefits of Good Patient Communication

GOOD COMMUNICATION

- Builds trust between the patient and health care provider
- May make it easier for the patient to disclose information
- Enhances patient satisfaction
- Allows the patient to participate more fully in health decision making
- Helps the patient to make better dental health decisions
- Leads to more realistic patient expectations

The benefits of good communication may contribute to better dental health for the patient.

Communication Filters

Each person involved in the act of communication interprets a message based on many factors such as his or her life experiences, age, gender, and cultural diversity. These factors act as **personal filters** that "distort" messages being sent and received (Fig. 1-3). ***For this reason, the message received may not be the message sent. Normal human biases or personalized filters create major barriers to effective communication.*** Communication is promoted by awareness that human beings have personalized filters that can impede accurate communication. Means of encouraging accurate communication include using a vocabulary that is easily understood by patients combined with an awareness of physical limitations, life experiences, and cultural differences.

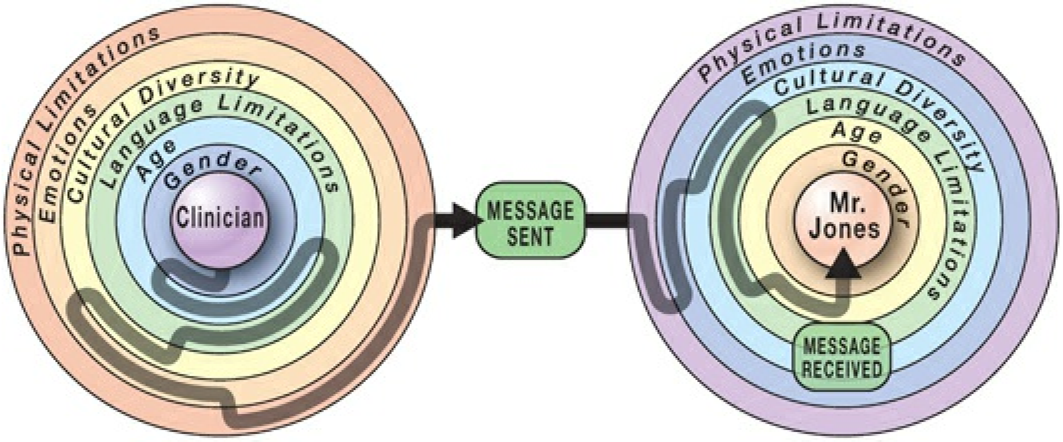

Physical Limitations
Emotions
Cultural Diversity
Language Limitations
Age
Gender
Clinician
MESSAGE SENT
Physical Limitations
Emotions
Cultural Diversity
Language Limitations
Age
Gender
Mr. Jones
MESSAGE RECEIVED

FIGURE 1-3 **Personal filters.** Each individual interprets a message based on his or her own filters such as life experiences, beliefs, physical limitations (e.g., hearing loss), and gender.

Nonverbal Communication

There are two major forms of communication: verbal and nonverbal.[1–5] Dr. Albert Mehrabian, who pioneered the study of communication, found that only about 7% of the meaning of a message is communicated through verbal exchange (Fig. 1-4).[6] About 38% is communicated by the use of the voice and tone. About 55% comes through gestures, facial expression, posture, etc. Dr. Mehrabian's communication model is useful in illustrating the importance of considering factors other than words when trying to convey meaning (as the speaker) or interpret meaning (as the listener). Patients interpret meaning from what the clinician actually says, but they also infer meaning from the way in which the message is conveyed—that is, messages conveyed through voice, facial expression, and body cues. The understanding of how to convey and interpret meaning is essential for effective communication.

1. **Verbal communication** is the use of spoken, written, or sign language to exchange information between individuals. In the context of dental care, communication's primary function is to establish understanding between the patient and clinician.
2. **Nonverbal communication** is the transfer of information between persons without using spoken, written, or sign language (Box 1-3).
   - In nonverbal communication "wordless" messages are sent and received by means of facial expression, appearance, gaze, gestures, postures, tone of voice, hairstyle, grooming habits, and body positioning in space.
   - Each of us gives and responds to literally thousands of nonverbal messages daily in our personal and professional lives.
   - We all react to wordless nonverbal messages emotionally, often without consciously knowing why.

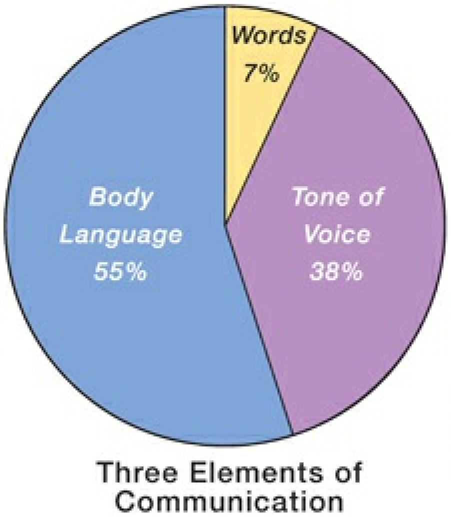


FIGURE 1-4 **Nonverbal communication.** Nonverbal communication is information that is communicated without using words.
- 7% of meaning is in spoken words
- 38% of meaning is paralinguistic (the way that words are said)
- 55% of meaning is in body language, such as facial expression

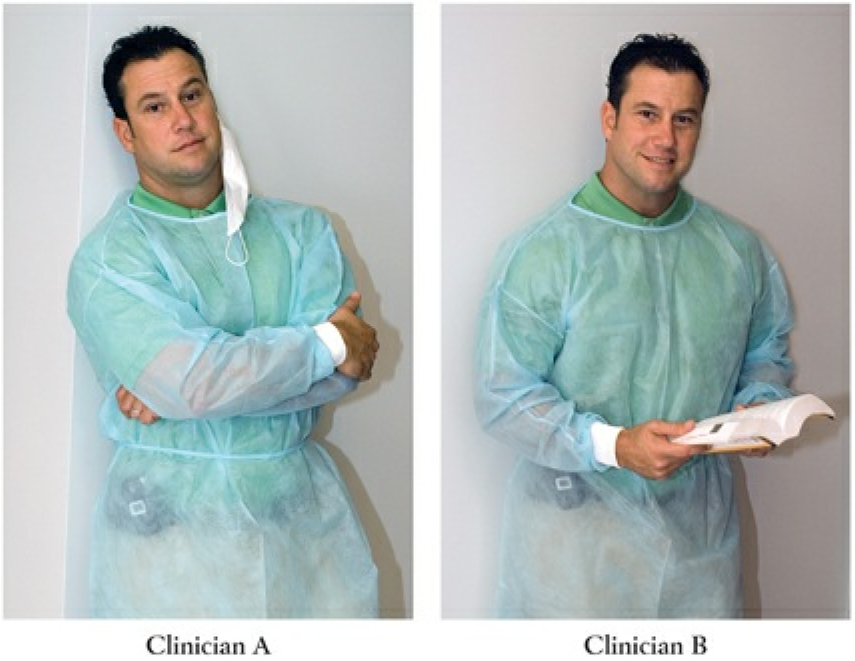
BOX
1-3

Nonverbal Communication

Nonverbal communication can include posture, facial expression, appearance, hairstyle, clothing, shaking hands, smiling, proximity to others, touch, color choice, and silence.

First Impressions

1. **Unconscious First Impressions.** Although health care providers prefer to be judged on their knowledge, skills, and the care they provide to patients, other factors such as first impressions often influence patients' judgments about clinicians.
   - It seems unfair, but first impressions count (Fig. 1-5).



Clinician A Clinician B

FIGURE 1-5 First impressions. If you were a patient, what message would these two clinicians be sending to you?

   - When a person walks into a room, others make subconscious decisions about him or her. Within about 60 seconds, others have judged the person's educational background, likeability, and level of success.
   - After about 5 minutes, conclusions have been drawn about the person's trustworthiness, reliability, intelligence, and friendliness.
   - Impressions are based on instinct and emotion, not on rational thought or careful investigation.
   - We all make associations between outward characteristics and the

   inner qualities we believe they reflect.
   - We filter everything we see and hear through our own experiences. We all have assumptions—**stereotypes**—regarding what it means to be short or tall, heavy or thin, clean or dirty, native or foreign, young or old, and male or female.

2. **Creating Positive First Impressions.** What can health care providers do to be in control of a patient's first impression of us?
   - Each clinician has to determine his or her objectives and make choices in dress and behavior that convey competence and caring.
   - First impressions can open the lines of communication and build trust.

Use of Space

1. **Proxemics** is the study of the distance an individual maintains from other persons and how this separation relates to environmental and cultural factors.
   - Every person has around him (or her) an invisible "personal zone of comfort" defined as personal space. We have all felt uneasiness in an elevator or airplane when the stranger on either side inadvertently touches us.
   - When our personal zone of comfort has been invaded, we feel uncomfortable and resentful. **Personal space**—or distance from other persons—is a powerful concept that we use in determining the meaning of messages conveyed by another person (Table 1-1).

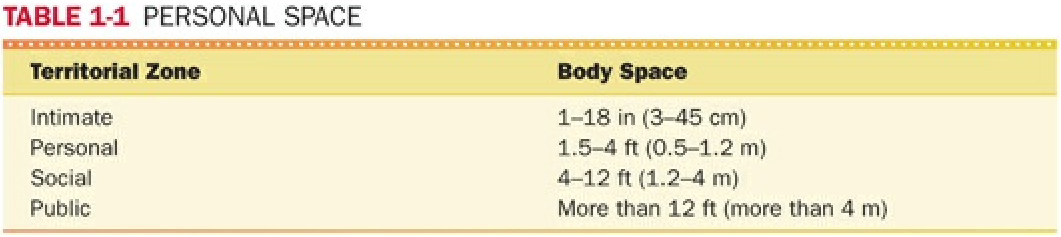


TABLE 1-1 PERSONAL SPACE

Territorial Zone	Body Space
Intimate	1–18 in (3–45 cm)
Personal	1.5–4 ft (0.5–1.2 m)
Social	4–12 ft (1.2–4 m)
Public	More than 12 ft (more than 4 m)

   - For example, an angry person is perceived as less threatening if the person is not standing nearby. If an angry person is close, however, the individual's anger is perceived as more threatening.
   - Personal space is a subtle but powerful part of nonverbal

communication that health care providers must understand in order to relate better to the patient in the dental setting.

   - ***Entering the personal or intimate zones of comfort is necessary in the dental health care setting and, if not carefully handled, may cause the patient to feel threatened or insecure.***

2. **Territory** is the space we consider as belonging to us.
   - The way that people handle space is largely determined by their culture.
   - Differences in culture can lead to different interpretations of personal space and touching. Misunderstandings can occur when low-contact cultures interact with high-contact cultures and either invade or avoid personal space and physical contact.
   - North Americans and Latin Americans, for example, have fundamentally different proxemic systems.
   - While North Americans usually remain at a distance from one another, Latin Americans stay very close to each other.
   - Remland and colleagues[7] reported that in their sample of seven nations, the British sample showed on average the greatest distance between persons in a conversation (15.40 in). Southern European countries such as Greece (13.86 in) and Italy (14.18 in) showed a closer distance between persons engaged in conversation.[7]
   - **Low-contact cultures** (North American, Northern European, Asian) favor the Social Zone for interaction and little, if any, physical contact. (Box 1-4 shows examples of low-contact and high-contact cultures.)
   - **High-contact cultures** (Mediterranean, Arab, Latin) prefer the Intimate and Personal Zones and much contact between people. In Saudi Arabia, persons engaged in conversation might be almost nose to nose with each other because their social space equates to a North American's intimate space.

BOX **1-4**

Low-Contact versus High-Contact Cultures

LOW-CONTACT CULTURES
Asian: China, Indonesia, Japan, Philippines, Thailand
Southern Asian: India and Pakistan
Northern European: Austria, England, Germany, the Netherlands, Norway, Scotland
North American: United States and Canada

HIGH-CONTACT CULTURES
Arab: Iraq, Kuwait, Saudi Arabia, Syria, United Arab Republic
Latin American: Bolivia, Cuba, Ecuador, El Salvador, Mexico, Paraguay, Peru, Puerto Rico, Venezuela
Southern European: France, Italy, Turkey

Touch as Nonverbal Communication

1. **The Importance of Touch.** Touching is perhaps the most powerful nonverbal communication tool.
   - We can communicate a wide variety of emotions through touching such as support, protection, anger, tenderness, or intimacy.
   - Touch is culturally determined. Each culture has a clear concept of what parts of the body one may not touch. Low-contact cultures—English, German, Scandinavian, Chinese, and Japanese—have little public touch. High-contact cultures—Latino, Middle-Eastern, and Jewish—accept frequent touches.
2. **Touch Is Universal.** Touch is perhaps the most universal of all forms of communication.
   - The comforting aspect of touch is significant in health care.
   - A comforting touch can say more than words (Fig. 1-6). A light pat on the shoulder or on the top of the hand is comforting and establishes a bond between the health care provider and patient.

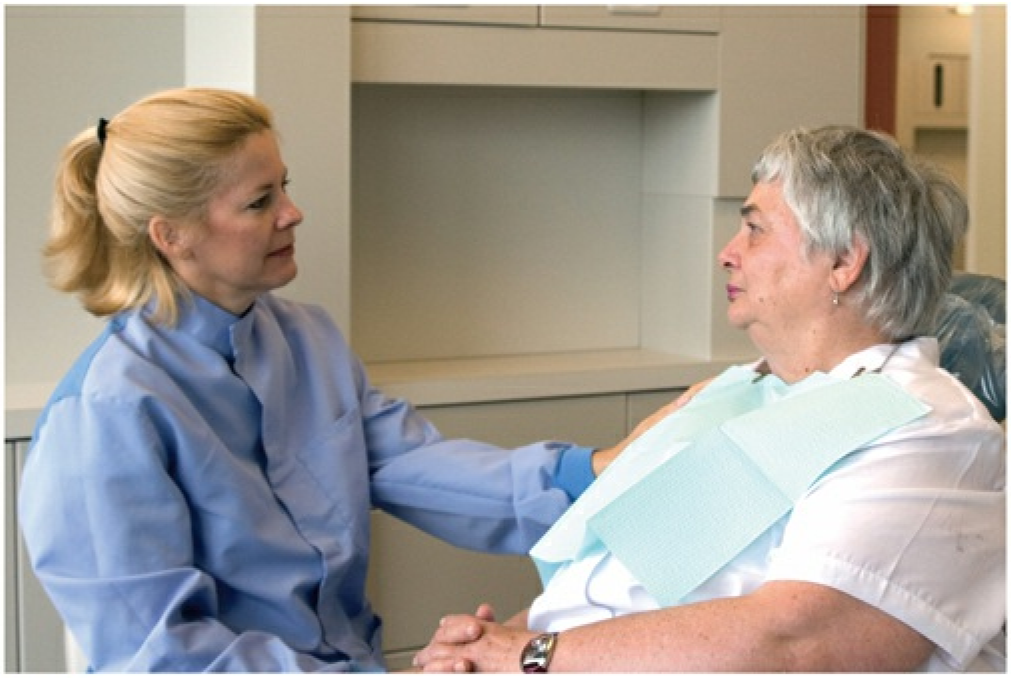


FIGURE 1-6 **The value of touch.** Of the many techniques for enhancing communication, nothing says "I care about you and I want to help you" more effectively than a simple touch on a person's hand or shoulder.

3. **Touch Taxonomy.** Richard Heslin has developed a taxonomy that classifies touch (Box 1-5).
    - Heslin's five categories are functional/professional, social/polite, friendship/warmth, love/intimacy, and sexual arousal.[8]
    - ***Dental care involves being in close proximity to the patient—invading the patient's space—and touching the patient.***
    - A patient may be acutely aware of the clinician's touch, and some patients may question the appropriateness of touching.
    - Dental health care providers should recognize that the patient is entitled to know why and where he or she is to be touched.
    - Clinicians should respect, as much as possible, the patient's personal space.

BOX
1-5

Heslin's Categories of Touching Behavior

1. Functional/professional
2. Social/polite

3. Friendship/warmth
4. Love/intimacy
5. Sexual arousal

Empathy

Empathy—identifying with the feelings or thoughts of another person—is an essential factor in communicating with patients. Communication between the dental health care provider and the patient is more complicated than a normal conversation. For many patients, being in a dental office is a high-stress situation. Pain, worry, and waiting can make a patient anxious or irritable. Many problems can be prevented by keeping patients informed about waiting times, billing or insurance charges, and other office policies that might trigger angry emotions. **Diplomacy** is the art of treating people with tact and genuine concern. Courtesy is based on sensitivity to the needs and feelings of others. As a health care professional, it is important to be aware of what you say and how you say it. Patient complaints about dental care often revolve around a seemingly innocent comment made by a dental team member. The wrong words can affect a patient's perceptions of the care that he or she receives. Table 1-2 presents some common situations encountered in a dental office and analyzes both effective and ineffective responses.

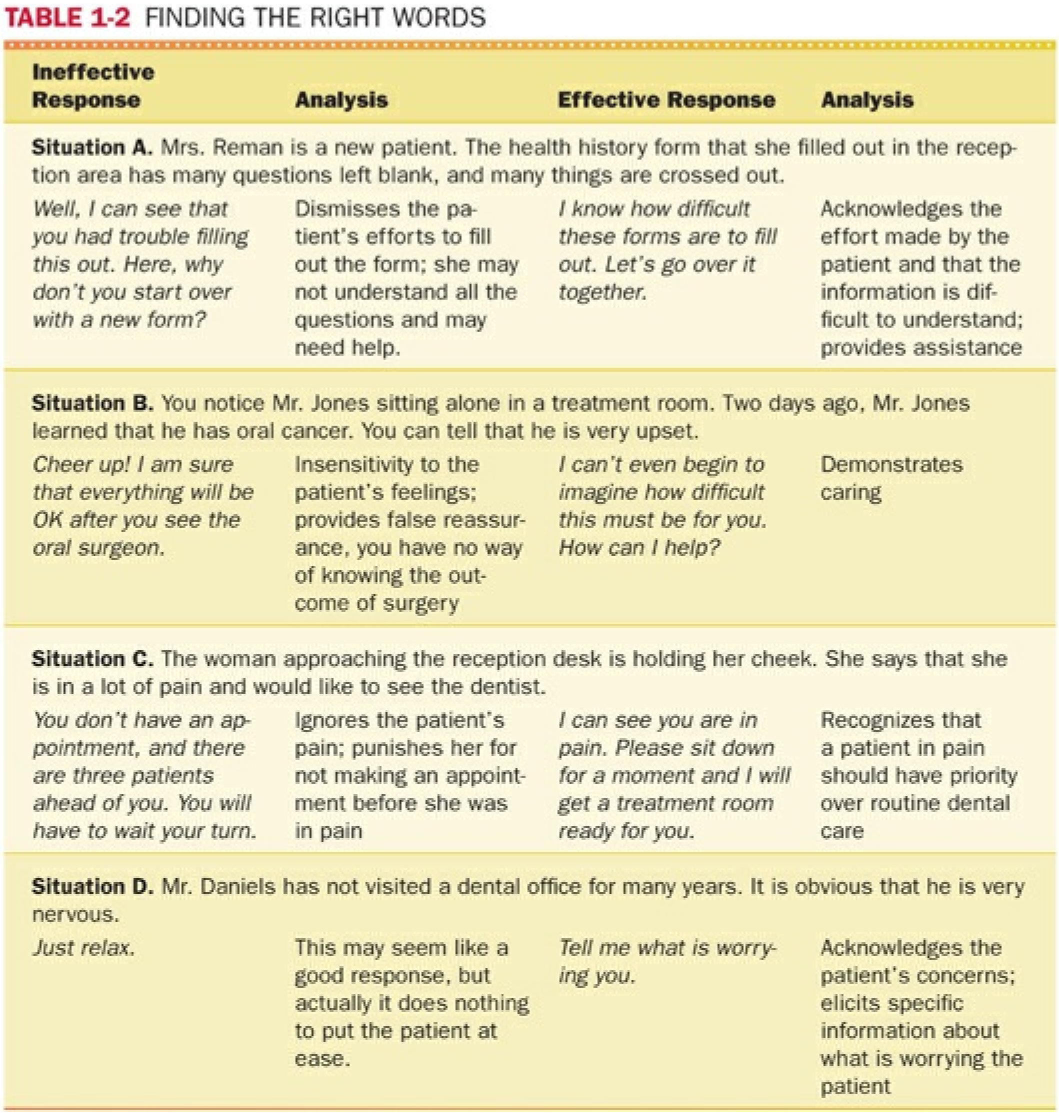


TABLE 1-2 FINDING THE RIGHT WORDS

Ineffective Response	Analysis	Effective Response	Analysis
Situation A. Mrs. Reman is a new patient. The health history form that she filled out in the reception area has many questions left blank, and many things are crossed out.			
Well, I can see that you had trouble filling this out. Here, why don't you start over with a new form?	Dismisses the patient's efforts to fill out the form; she may not understand all the questions and may need help.	*I know how difficult these forms are to fill out. Let's go over it together.*	Acknowledges the effort made by the patient and that the information is difficult to understand; provides assistance
Situation B. You notice Mr. Jones sitting alone in a treatment room. Two days ago, Mr. Jones learned that he has oral cancer. You can tell that he is very upset.			
Cheer up! I am sure that everything will be OK after you see the oral surgeon.	Insensitivity to the patient's feelings; provides false reassurance, you have no way of knowing the outcome of surgery	*I can't even begin to imagine how difficult this must be for you. How can I help?*	Demonstrates caring
Situation C. The woman approaching the reception desk is holding her cheek. She says that she is in a lot of pain and would like to see the dentist.			
You don't have an appointment, and there are three patients ahead of you. You will have to wait your turn.	Ignores the patient's pain; punishes her for not making an appointment before she was in pain	*I can see you are in pain. Please sit down for a moment and I will get a treatment room ready for you.*	Recognizes that a patient in pain should have priority over routine dental care
Situation D. Mr. Daniels has not visited a dental office for many years. It is obvious that he is very nervous.			
Just relax.	This may seem like a good response, but actually it does nothing to put the patient at ease.	*Tell me what is worrying you.*	Acknowledges the patient's concerns; elicits specific information about what is worrying the patient

SECTION 2 • The Patient–Hygienist Relationship

Have you ever been in the patient role: feeling vulnerable, unsure, or frightened? A friendly smile or a question about how you are feeling can reassure and calm. As hygienists, the dental office becomes our "daily world," and we forget that it can be an unsettling place for a dental patient. Dental hygienists commonly have a high level of dental health and therefore have had mainly pleasant experiences in the dental office. Many patients, on the other hand, have had—or have a fear of—painful experiences with dental care. This section presents concepts that are effective for building successful relationships with patients.

The Nature of the Helping Relationship

1. **The Professional Helping Relationship.** The professional hygienist–patient relationship differs from that which occurs between friends (social relationships), colleagues (working relationships), or family members (kinship relationships).
   - There may be some similarities between interactions with family and friends, but one factor in particular differentiates helping relationships from social relationships. A **helping relationship** is a relationship that is established for the benefit of the patient, whereas kinship and friendship relationships are designed to meet mutual needs (i.e., needs of both friends in the relationship).
   - ***In particular, the hygienist–patient relationship is established to help the patient achieve and maintain optimal health.***
2. **Technical versus Interpersonal Skills**
   - Psychomotor skills—such as periodontal instrumentation—develop when an individual practices the skills over a long period of time. Since periodontal instrumentation cannot be learned overnight, of necessity, a great deal of time in the dental hygiene curriculum is spent on learning this psychomotor skill.
   - It is important that dental hygiene students understand that the amount of practice time devoted to instrumentation does not indicate that this procedure is “what the profession of dental hygiene is all about.” Rather, the role of the dental hygienist is that of a patient advocate who assists patients in maintaining their dental health.
   - ***A research study at the University of Sydney confirms that patients value interpersonal skills as highly as they value technical skills and wanted to be treated like a “real person.”***[9]
   - Interactions hygienists have with patients can be caring and helpful or unfeeling and even harmful.
   - As a dental hygiene student, stop to consider whether you focus your attention on a procedure—such as the head and neck exam—or on the

patient as a person (Box 1-6).

BOX
1-6

How Do YOU See Your Role as a Dental Hygienist?

- A technician . . . as a "tooth-cleaning" technician.
- A patient advocate . . . as a dental health specialist and patient advocate whose primary focus is on preventing and treating dental disease to improve oral health, in support of the patient's overall health.

Patients' Rights in the Helping Relationship

As the "consumers" of dental services, patients have the rights summarized in Box 1-7.

BOX
1-7

Patients' Rights in the Helping Relationship

- To expect a systematic and accurate assessment of their oral health status
- To be informed about their oral health status so that they clearly understand what the hygienist means
- To have all their questions answered
- To receive care from a dental hygienist who has current knowledge and is able to provide safe, efficient care that meets the standards of care
- To be treated courteously by a dental hygienist who shows genuine interest in them
- To trust that the confidentiality of any personal information will be respected
- To consent to or refuse any proposed treatment without jeopardizing their relationship with their dental hygienist
- To receive quality care

Paternalistic versus Patient-Centered Care

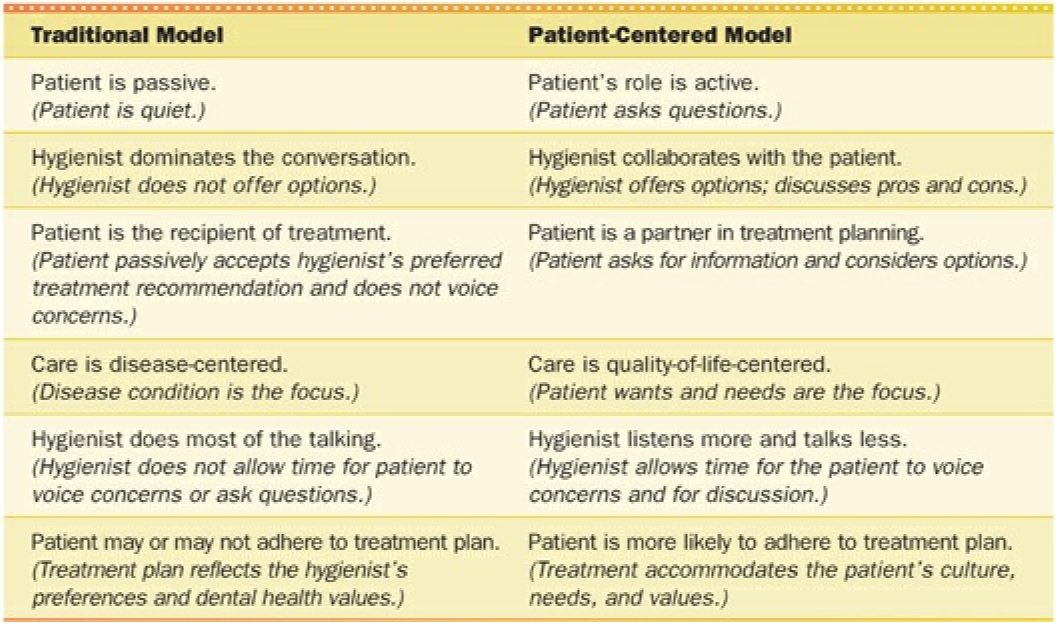
Traditionally, medical and dental health care has taken a paternalistic approach. The patient-centered approach is a relatively new care model, being only a few decades old.

1. **Traditional "Paternalistic Model of Care"**
   a. **Paternalism** is the belief that health decisions (e.g., whether to have periodontal surgery, appropriateness of a fixed bridge versus a dental implant) are best left in the hands of those providing the health care.[10]
   b. This traditional approach assumes that patients don't have the capacity to understand medical or dental care.
      1) It also assumes that the patient does not need to understand his or her own health care.
      2) In this traditional approach, the physician or dentist decides "what is best for the patient" and then carries out that treatment.
2. **Patient-Centered Health Care**
   a. **Patient-centered care** is defined as respecting and responding to patients' wants, needs, and preferences, so that the patient can make choices in his or her care that best fits his or her individual circumstances.[11] Such care is characterized by a positive patient–provider relationship, shared understanding, emotional support, trust, patient enablement, and informed choices.[12]
   b. A patient-centered approach to patient care recognizes that there are two experts present during the interaction between a health care provider and patient. Both the health care provider and the patient have rights and needs, and both have a role in decision making about care and implementation of treatment.
      1) One expert is the health care provider who has clinical knowledge.
      2) The second expert is the patient who brings experience, beliefs, and values to the dental treatment planning process.
   c. **A clinical example of traditional versus patient-centered models of care.** A clinical example of the traditional approach versus the

patient-centered approach is the instance of a patient with periodontal pockets.

1) In the traditional model, the dentist explains the condition and tells the patient why she needs periodontal surgery.
2) In the patient-centered model, the dentist explains the condition and the various treatment options (surgery or frequent professional periodontal instrumentation) and the expected outcomes of these options. Then the dentist and the patient discuss the patient’s needs and preferences and come to a joint decision about the treatment plan. For example, even though periodontal surgery provides the best possible outcome, the patient may be unable to afford surgery and opt instead to come every 3 months for periodontal instrumentation.
3) Table 1-3 summarizes the differences between traditional and patient-centered care models.

TABLE 1-3 TRADITIONAL VERSUS PATIENT-CENTERED MODELS OF PATIENT CARE



Traditional Model	Patient-Centered Model
Patient is passive. *(Patient is quiet.)*	Patient’s role is active. *(Patient asks questions.)*
Hygienist dominates the conversation. *(Hygienist does not offer options.)*	Hygienist collaborates with the patient. *(Hygienist offers options; discusses pros and cons.)*
Patient is the recipient of treatment. *(Patient passively accepts hygienist’s preferred treatment recommendation and does not voice concerns.)*	Patient is a partner in treatment planning. *(Patient asks for information and considers options.)*
Care is disease-centered. *(Disease condition is the focus.)*	Care is quality-of-life-centered. *(Patient wants and needs are the focus.)*
Hygienist does most of the talking. *(Hygienist does not allow time for patient to voice concerns or ask questions.)*	Hygienist listens more and talks less. *(Hygienist allows time for the patient to voice concerns and for discussion.)*
Patient may or may not adhere to treatment plan. *(Treatment plan reflects the hygienist’s preferences and dental health values.)*	Patient is more likely to adhere to treatment plan. *(Treatment accommodates the patient’s culture, needs, and values.)*

Integrating Communication and Therapeutic Tasks

Dental therapy involves two important tasks, or the “2Fs” of **finding the problem** (diagnosis) and **fixing the problem** (treatment). New and experienced clinicians, alike, often find it difficult to combine these "2Fs" with communication skills.

The E4 model for clinician–patient communication defines the critical communication tasks—the "4Es"—to engage, empathize, educate, and enlist the patient. The "4Es" are of equal importance to the therapeutic "2Fs" tasks for successful patient care. Derived from an extensive review of the literature on clinician–patient communication, the model has proved to be a useful tool for health care providers regardless of specialty, experience, or practice setting.[13–15] Figure 1-7 depicts the relationship between the "4Es" of communication with the "2Fs" of dental therapy.

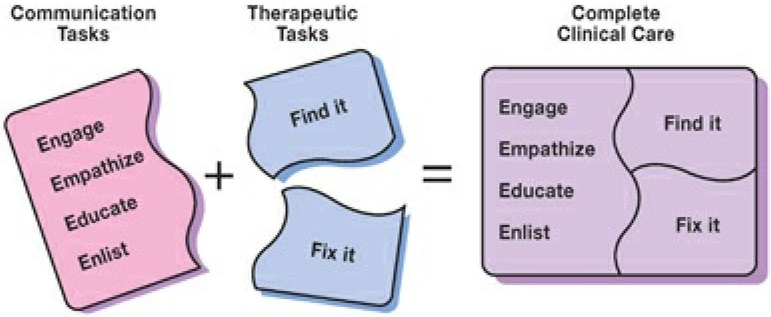


FIGURE 1-7 The E4 model for clinician–patient communication. The "4Es" define the communication tasks, combined with the traditionally taught therapeutic tasks, that are necessary for complete clinical care.

Engagement establishes an interpersonal connection between the patient and clinician. **Empathy** demonstrates the hygienist's understanding of and concern about the patient's thoughts and feelings—the patient is seen, heard, and understood by the hygienist. **Education** delivers information to the patient—the patient learns something. **Enlistment** invites the patient to actively participate in decision making and acknowledges that the patient controls much of what can happen in his or her dental health care treatment plan.[16]

SECTION 3 • Patient-Centered Communication

Patient-centered communication embraces three core attributes of "patient-centered care":

1. Consideration of patients' needs, perspectives, and individual

experiences

2. Provision of opportunities for patients to participate in their care
3. Enhancement of the patient–clinician relationship[12]

Box 1-8 contains one example of a patient-centered conversation.

BOX 1-8 Patient-Centered Communication: An Example

Hygienist: "Good morning, Mrs. Jamison. It's nice to meet you. It must have been difficult driving here today with all this snow." (*small talk*)

Patient: "Yes, driving is dangerous. I left early for this appointment to make sure that I got here on time."

Hygienist: "Tell me why you decided to come to the dental office today." (*open-ended question*)

Patient: "Well, I have been seeing blood when I brush my teeth and I am wondering if this is a problem. And then I keep thinking about what my mother went through."

Hygienist: "Your mother? Can you tell me more about that?" (*facilitating question*)

Patient: "Well, my mother had terrible dental problems and had to see a periodontist and then she had to have surgery and it was very painful!"

Hygienist: "So, you are worried that the same thing might happen to you?" (*reflective listening*)

Patient: "Yes, that is it exactly."

Communication Tip: Note that the hygienist in this example refrains from immediately launching into an explanation of inflammation or periodontal disease. Instead, the hygienist concentrates on understanding the patient's concerns.

Framework for Patient–Clinician Communication

Patient-centered communication is organized around six core functions of patient–clinician communication, as depicted in Figure 1-8.

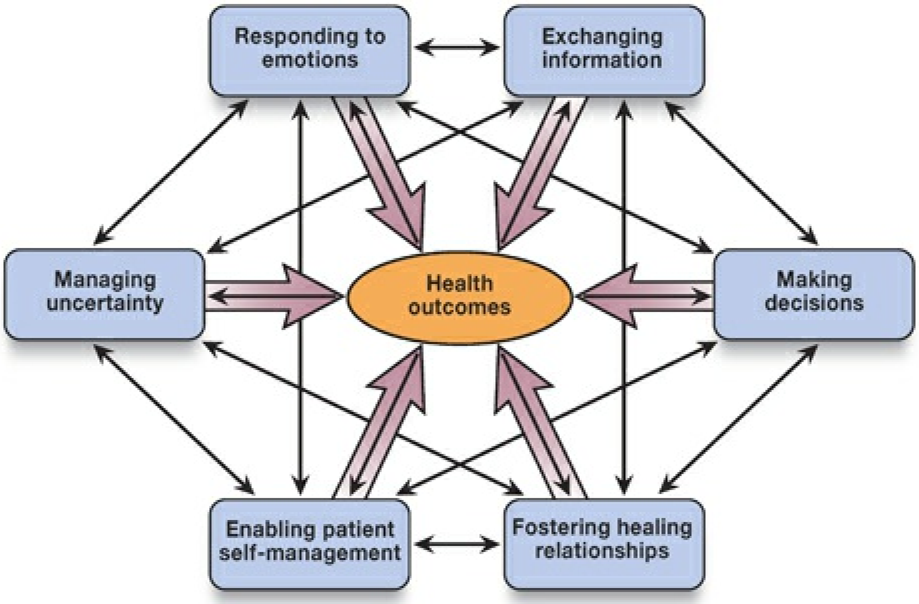

Responding to emotions
Exchanging information
Managing uncertainty
Health outcomes
Making decisions
Enabling patient self-management
Fostering healing relationships

FIGURE 1-8 Core functions of patient–clinician communication. The diagram represents the six core functions of patient–clinician communication that interact to produce communication that can affect important dental health outcomes.

Patient-Centered Communication as a Key Clinical Skill

A number of national organizations acknowledge that communication is a key clinical skill for health care providers.[11,17] The increased interest in effective communication between health care providers and patients is motivated by the desire to provide the best possible care for patients. There is a growing recognition that the education and training of health care providers should focus on helping student clinicians acquire these skills.

Good communication is not "common sense"; rather, it is a set of skills and attitudes that need to be central to the practice of dental hygiene. The hygienist's ability to communicate clearly with compassion, to meet or even exceed the patient's expectations, is the essence of a helping relationship. Many patient complaints about dental care are not about how procedures are performed but about perceived lack of caring on the part of the dental staff. Table 1-4 is a self-assessment tool that explores the skills needed for effective communication and customer service.

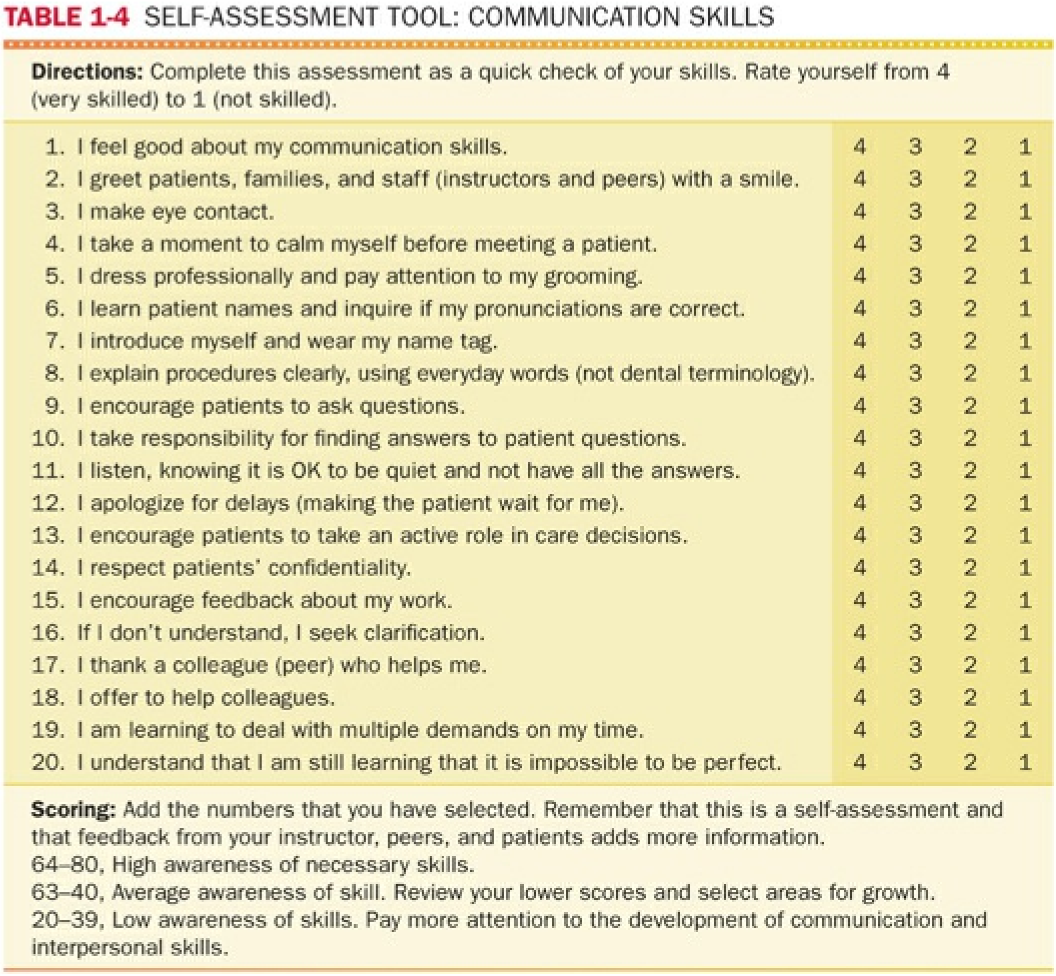


TABLE 1-4 SELF-ASSESSMENT TOOL: COMMUNICATION SKILLS

Directions: Complete this assessment as a quick check of your skills. Rate yourself from 4 (very skilled) to 1 (not skilled).

1. I feel good about my communication skills.	4	3	2	1
2. I greet patients, families, and staff (instructors and peers) with a smile.	4	3	2	1
3. I make eye contact.	4	3	2	1
4. I take a moment to calm myself before meeting a patient.	4	3	2	1
5. I dress professionally and pay attention to my grooming.	4	3	2	1
6. I learn patient names and inquire if my pronunciations are correct.	4	3	2	1
7. I introduce myself and wear my name tag.	4	3	2	1
8. I explain procedures clearly, using everyday words (not dental terminology).	4	3	2	1
9. I encourage patients to ask questions.	4	3	2	1
10. I take responsibility for finding answers to patient questions.	4	3	2	1
11. I listen, knowing it is OK to be quiet and not have all the answers.	4	3	2	1
12. I apologize for delays (making the patient wait for me).	4	3	2	1
13. I encourage patients to take an active role in care decisions.	4	3	2	1
14. I respect patients' confidentiality.	4	3	2	1
15. I encourage feedback about my work.	4	3	2	1
16. If I don't understand, I seek clarification.	4	3	2	1
17. I thank a colleague (peer) who helps me.	4	3	2	1
18. I offer to help colleagues.	4	3	2	1
19. I am learning to deal with multiple demands on my time.	4	3	2	1
20. I understand that I am still learning that it is impossible to be perfect.	4	3	2	1

Scoring: Add the numbers that you have selected. Remember that this is a self-assessment and that feedback from your instructor, peers, and patients adds more information.
64–80, High awareness of necessary skills.
63–40, Average awareness of skill. Review your lower scores and select areas for growth.
20–39, Low awareness of skills. Pay more attention to the development of communication and interpersonal skills.

Patient-Centered Communication Techniques

Surveys conclude that patients strongly desire a patient-centered communication approach.[18,19] During patient assessment, being patient-centered consists of making a conscious effort to understand the patient's concerns and beliefs.[16] Table 1-5 presents a set of practical and evidence-based suggestions to help improve the quality of the hygienist–patient relationship during the patient assessment process.[16,20–23]

TABLE 1-5 SUMMARY OF PATIENT-CENTERED COMMUNICATION TECHNIQUES

Technique	Description
Preparing for the appointment	• The dental office environment is full of distractions, including noisy equipment sounds from other treatment rooms, movements and conversations of other team members, computers and cell phones, and even the hygienist's own thoughts about issues related or unrelated to patient care. • Before meeting the patient, the hygienist should take a moment to review the patient's chart and make conscious decision to focus on the patient he or she is about to meet.[24]
Greeting the patient	• In a dental setting, as in most other human interactions, first impressions count. Meeting and greeting a patient is the first step in the dental care process. • Greet the patient appropriately. If this is the first time that you are meeting an adult patient, greet him or her by last name and title (Mr., Mrs., Ms., Dr., etc.). Greet anyone accompanying the patient in a similar manner. Ask how to pronounce unfamiliar names. • After the initial greeting, it is fine to ask if the patient prefers to be addressed by his or her first or last name. Make a note of the patient's preference in the patient chart. • Introduce yourself. Escort the patient to the treatment room. • Use touch sparingly. Many people are not comfortable with strangers hugging, patting, or touching them. • Several studies indicate that patient satisfaction is increased when there is a brief period of informal conversation.[25,26] An example of small talk is "Have you been enjoying this beautiful weather?" • Small talk is a way that the health care provider can connect with the patient as "a person."[25]
Reducing distance	• Diminishing the physical space between the patient and hygienist • Sitting at the same level as the patient and making eye contact conveys the health care provider's compassion and interest in the patient's welfare.[27] • An exception to this suggestion occurs when the patient's culture may view direct eye contact as inappropriate. Koreans, Filipinos, certain Asian cultures, and Native Americans may find direct eye contact offensive.[28] Be guided by the patient's behavior; if he or she avoids eye contact, do likewise. • Standing and looking down at the patient creates a negative impression and emphasizes the dominant role of the health care provider in the relationship.[29]

TABLE 1-5 SUMMARY OF PATIENT-CENTERED COMMUNICATION TECHNIQUES (Continued)

Technique	Description
Monitoring body language	• Be aware of your own nonverbal behaviors. For example, glancing at your watch might convey that you are rushed. Use reassuring gestures, such as nodding your head, to encourage the patient to keep talking. • Be alert for nonverbal clues that indicate the patient is uncomfortable or anxious. Some of these are fidgeting, rapid breathing, shakiness of hands, eyes wandering around the treatment room, or actual wringing of hands.
Engaging the patient and gathering information	• Seek to understand the patient's reasons for coming to the dental office. Questions such as "How are you today?" or "What brings you here today?" provide a means to start the conversation. • Ask open-ended questions that allow the patient to determine the direction that the conversation will take.
Listening	• Allow the patient to talk. The biggest challenge on the part of the health care provider is to take the time to listen—really listen—to the patient's concerns and not to interrupt the patient. The most effective dental hygienists are those who have developed good listening skills. • Listening is a nonverbal way to communicate the hygienist's interest in and acceptance of the patient. • Statements such as "Tell me more about that" or "That must be a worry" are helpful in encouraging patients to provide information. • Pay attention to what is being said; do not worry about what you are going to say next. Avoid interrupting the patient. Focus on the patient who is telling you something that is important to him or her. • Use facial expressions and body language to confirm that you are listening to what the patient is saying. Make eye contact, lean forward, and nod your head at key points. • Offer confirmation that you hear what is being said. An "um-hmm," "go on," or "I see" may be all that is required.
Remaining silent	• Silence, also, is a very effective tool. A brief pause in conversation allows the patient time to think and prepare for what to discuss next.[30]
Gently and respectfully steering the conversation	• Many hygienists worry that asking the patient to talk about his or her concerns will take too much time and allow the patient to ramble on about information that is not helpful. • If the patient seems to be "rambling," an effective way to steer the conversation in a more organized direction is to tactfully ask the patient "Would it be OK if I interrupt you to ask some specific questions about what you are telling me?"

Continued on following page

TABLE 1-5 SUMMARY OF PATIENT-CENTERED COMMUNICATION TECHNIQUES (Continued)

Technique	Description
Restating and seeking clarification	• Restating—the act of restating what the hygienist heard the patient say—greatly facilitates accurate communication between the health care provider and the patient. Restating is not simply repeating what the patient has just said. For example, if the patient says, "I am here today because of these brown stains on my teeth," the hygienist might restate by saying, "So what you are saying is that you are most concerned about the appearance of your smile? Is that correct?" • Restating allows the hygienist to verify the patient's concerns and provides an opportunity for the patient to make corrections. This process reassures the patient that the health care provider understands his or her concerns or needs. • Use confirmation to ensure that both the clinician and patient are on the same track and to clear up misconceptions. • Clarify information. Ask a question, if you want to clarify the patient's statement. Patient: "This is too much for me to handle." Clinician: "What is it that worries you the most?" (Clinician gives the patient an opportunity to explain the statement.)
Validating	• Validate the patient's feelings (e.g., "Many people feel the same way you are feeling in this situation. It is understandable."). • Acknowledge and praise the patient for things he or she is already doing (e.g., "I can see that you are making every effort to care for your dental health.").
Collaborating	• Acknowledge that for care to be effective, the patient and clinician must work together. • Treat every patient as though he or she is the only expert on the problem—you are only a collaborator in producing solutions and/or providing advice regarding the problem. • Interact with the patient as a peer; avoid a condescending approach. • Avoid being defensive; state information clearly without a confrontational tone. • Understand and respect patients' values, beliefs, and expectations (e.g., "So what you are saying is that you want to have a healthy mouth, but that you are concerned about the cost of periodontal surgery. Is that correct?").

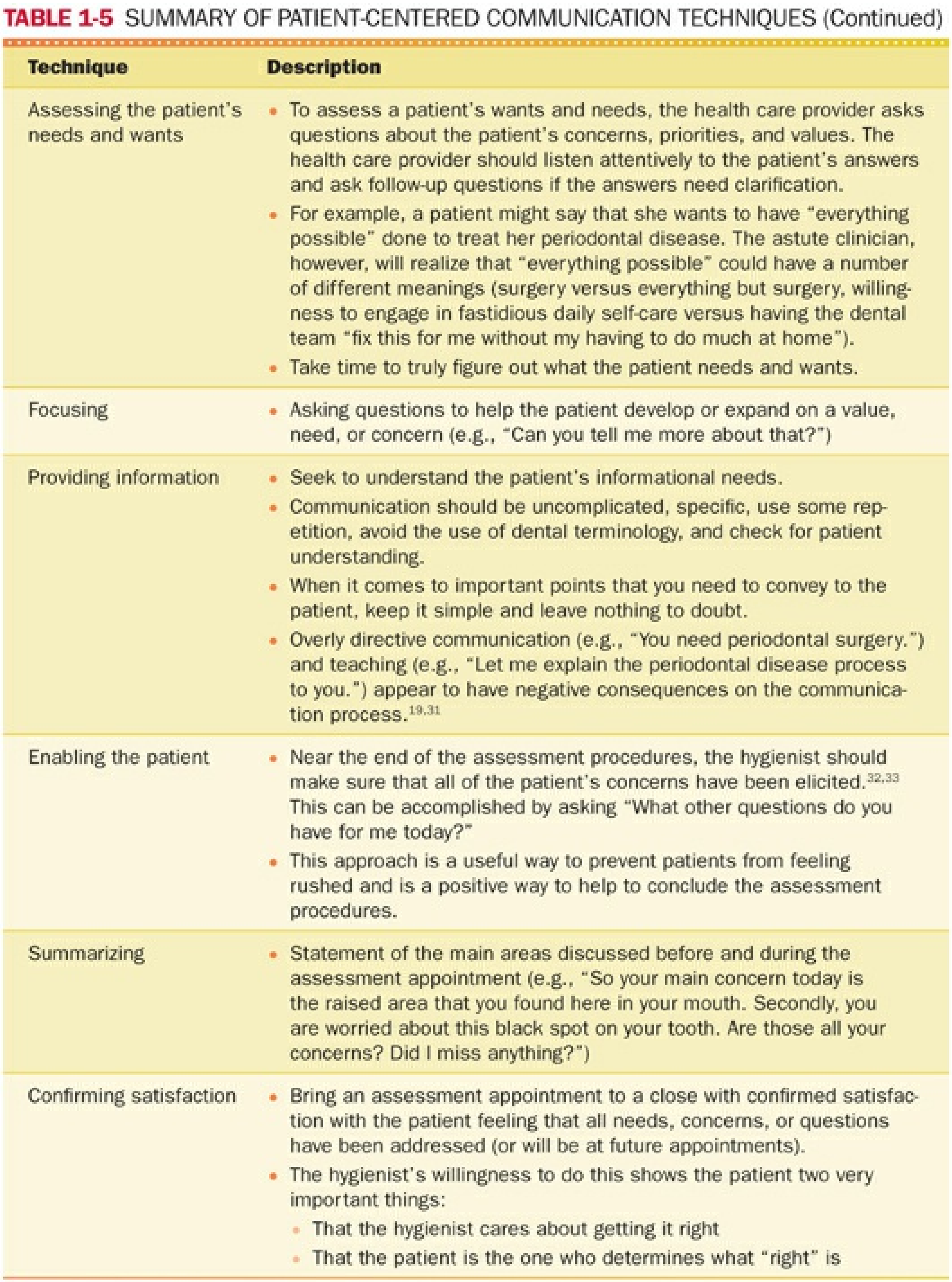


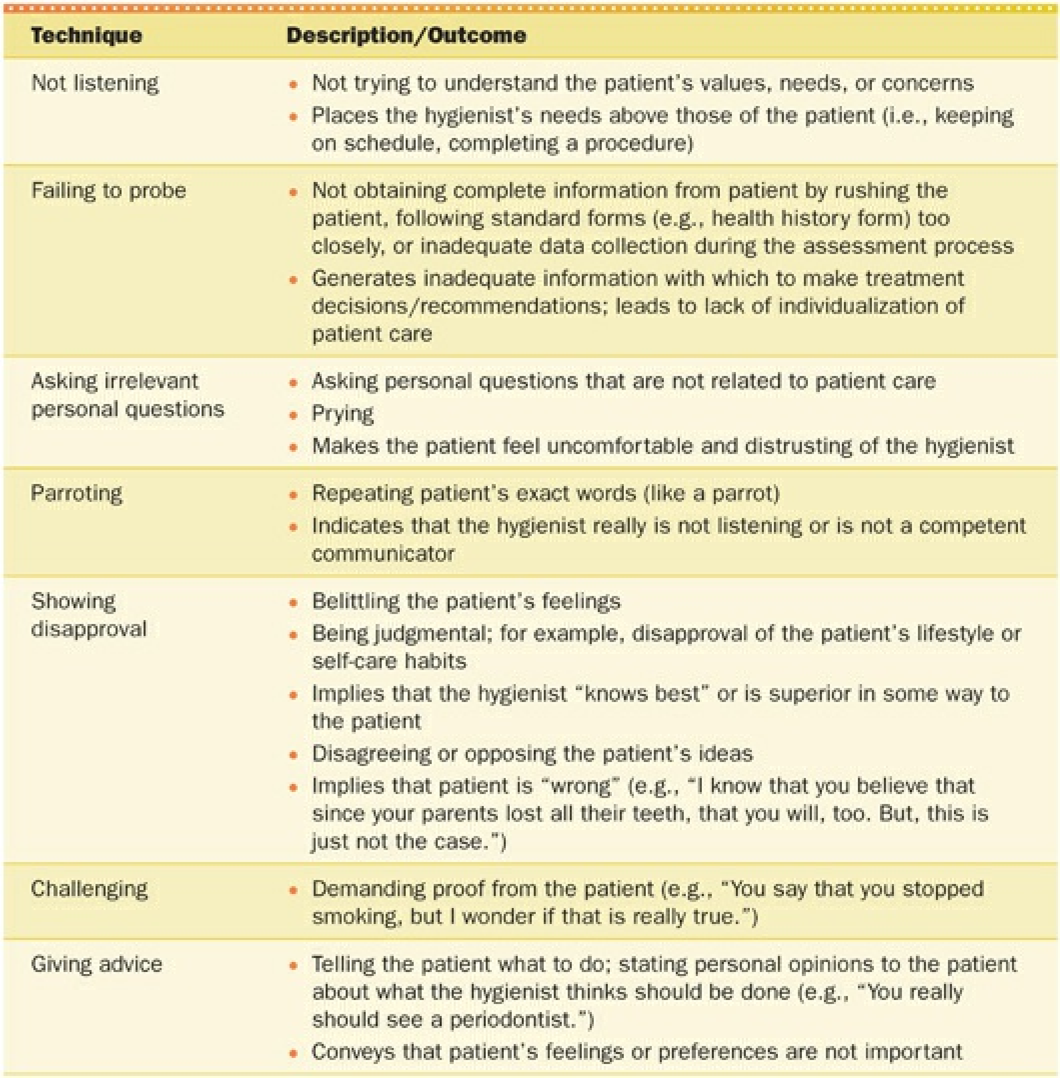
TABLE 1-5 SUMMARY OF PATIENT-CENTERED COMMUNICATION TECHNIQUES (Continued)

Technique	Description
Assessing the patient's needs and wants	• To assess a patient's wants and needs, the health care provider asks questions about the patient's concerns, priorities, and values. The health care provider should listen attentively to the patient's answers and ask follow-up questions if the answers need clarification. • For example, a patient might say that she wants to have "everything possible" done to treat her periodontal disease. The astute clinician, however, will realize that "everything possible" could have a number of different meanings (surgery versus everything but surgery, willingness to engage in fastidious daily self-care versus having the dental team "fix this for me without my having to do much at home"). • Take time to truly figure out what the patient needs and wants.
Focusing	• Asking questions to help the patient develop or expand on a value, need, or concern (e.g., "Can you tell me more about that?")
Providing information	• Seek to understand the patient's informational needs. • Communication should be uncomplicated, specific, use some repetition, avoid the use of dental terminology, and check for patient understanding. • When it comes to important points that you need to convey to the patient, keep it simple and leave nothing to doubt. • Overly directive communication (e.g., "You need periodontal surgery.") and teaching (e.g., "Let me explain the periodontal disease process to you.") appear to have negative consequences on the communication process.[19,31]
Enabling the patient	• Near the end of the assessment procedures, the hygienist should make sure that all of the patient's concerns have been elicited.[32,33] This can be accomplished by asking "What other questions do you have for me today?" • This approach is a useful way to prevent patients from feeling rushed and is a positive way to help to conclude the assessment procedures.
Summarizing	• Statement of the main areas discussed before and during the assessment appointment (e.g., "So your main concern today is the raised area that you found here in your mouth. Secondly, you are worried about this black spot on your tooth. Are those all your concerns? Did I miss anything?")
Confirming satisfaction	• Bring an assessment appointment to a close with confirmed satisfaction with the patient feeling that all needs, concerns, or questions have been addressed (or will be at future appointments). • The hygienist's willingness to do this shows the patient two very important things: ◦ That the hygienist cares about getting it right ◦ That the patient is the one who determines what "right" is

Techniques that Hinder Communication

In contrast to communication techniques that facilitate the hygienist–patient relationship, there are certain communication habits that hinder this relationship. Such habits include asking irrelevant personal questions, stating personal opinions, or showing disapproval. Table 1-6 summarizes communication techniques that hinder the hygienist–patient relationship.

TABLE 1-6 SUMMARY OF TECHNIQUES THAT HINDER HYGIENIST–PATIENT COMMUNICATION



Technique	Description/Outcome
Not listening	• Not trying to understand the patient's values, needs, or concerns • Places the hygienist's needs above those of the patient (i.e., keeping on schedule, completing a procedure)
Failing to probe	• Not obtaining complete information from patient by rushing the patient, following standard forms (e.g., health history form) too closely, or inadequate data collection during the assessment process • Generates inadequate information with which to make treatment decisions/recommendations; leads to lack of individualization of patient care
Asking irrelevant personal questions	• Asking personal questions that are not related to patient care • Prying • Makes the patient feel uncomfortable and distrusting of the hygienist
Parroting	• Repeating patient's exact words (like a parrot) • Indicates that the hygienist really is not listening or is not a competent communicator
Showing disapproval	• Belittling the patient's feelings • Being judgmental; for example, disapproval of the patient's lifestyle or self-care habits • Implies that the hygienist "knows best" or is superior in some way to the patient • Disagreeing or opposing the patient's ideas • Implies that patient is "wrong" (e.g., "I know that you believe that since your parents lost all their teeth, that you will, too. But, this is just not the case.")
Challenging	• Demanding proof from the patient (e.g., "You say that you stopped smoking, but I wonder if that is really true.")
Giving advice	• Telling the patient what to do; stating personal opinions to the patient about what the hygienist thinks should be done (e.g., "You really should see a periodontist.") • Conveys that patient's feelings or preferences are not important

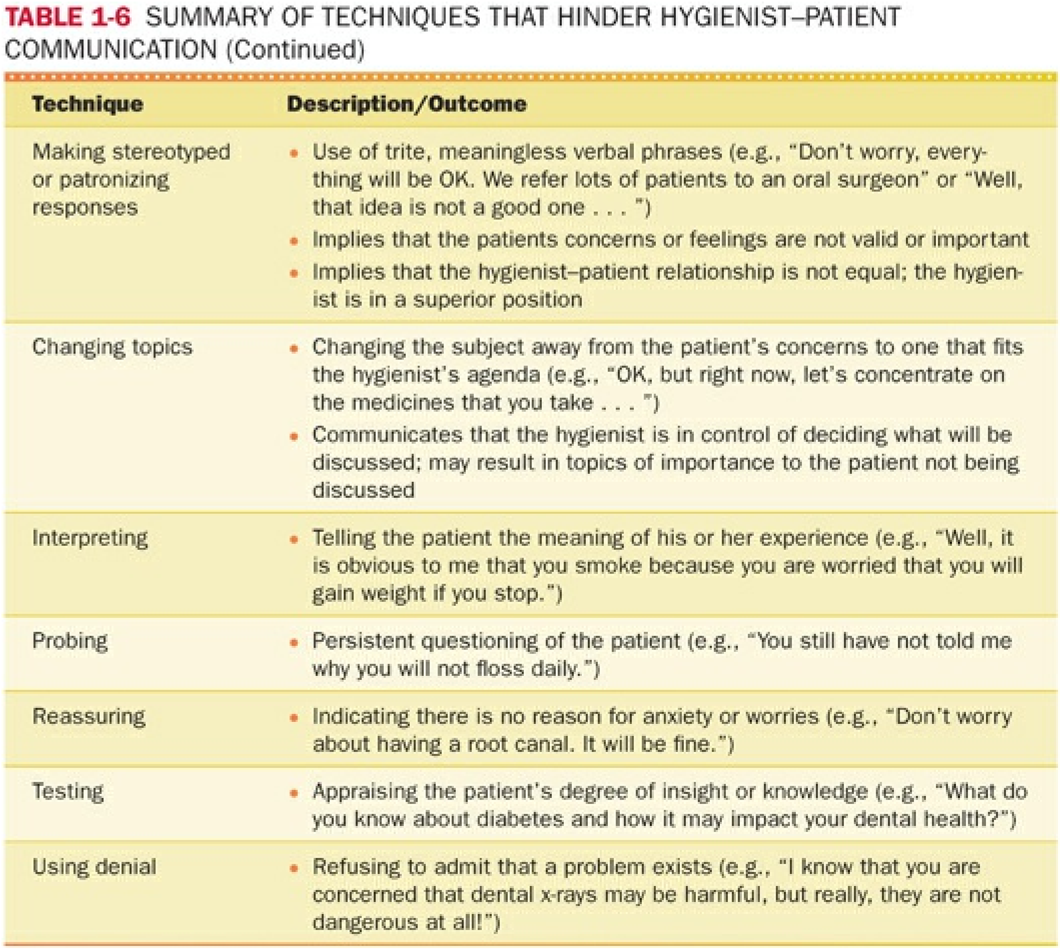


TABLE 1-6 SUMMARY OF TECHNIQUES THAT HINDER HYGIENIST–PATIENT COMMUNICATION (Continued)

Technique	Description/Outcome
Making stereotyped or patronizing responses	• Use of trite, meaningless verbal phrases (e.g., "Don't worry, everything will be OK. We refer lots of patients to an oral surgeon" or "Well, that idea is not a good one . . . ") • Implies that the patients concerns or feelings are not valid or important • Implies that the hygienist–patient relationship is not equal; the hygienist is in a superior position
Changing topics	• Changing the subject away from the patient's concerns to one that fits the hygienist's agenda (e.g., "OK, but right now, let's concentrate on the medicines that you take . . . ") • Communicates that the hygienist is in control of deciding what will be discussed; may result in topics of importance to the patient not being discussed
Interpreting	• Telling the patient the meaning of his or her experience (e.g., "Well, it is obvious to me that you smoke because you are worried that you will gain weight if you stop.")
Probing	• Persistent questioning of the patient (e.g., "You still have not told me why you will not floss daily.")
Reassuring	• Indicating there is no reason for anxiety or worries (e.g., "Don't worry about having a root canal. It will be fine.")
Testing	• Appraising the patient's degree of insight or knowledge (e.g., "What do you know about diabetes and how it may impact your dental health?")
Using denial	• Refusing to admit that a problem exists (e.g., "I know that you are concerned that dental x-rays may be harmful, but really, they are not dangerous at all!")

Questioning Skills

Questioning skills are particularly important during the health history portion of the assessment process to gather complete and accurate information from the patient. Tips for effective questioning are summarized in Box 1-9.

BOX
1-9

Tips for Effective Questioning

1. General Tips for Gathering Information

- Use language that is understandable to the patient. Avoid medical/dental terminology if the patient does not have a medical or dental background. Most people have difficulty understanding the words used in health care. For example, rather than asking if the patient has ever experienced vertigo, ask if she felt dizzy.

- Ask one question at a time. Keep questions brief and simple and give the patient plenty of time to answer.
- Avoid leading questions. Avoid putting words in the patient's mouth.
- Avoid interrupting the patient. If you need to ask a follow-up question, wait until the patient has completed his or her thought. Let the patient do the talking.
- All questions should be asked in a positive way. Avoid accusing language in your questions (e.g., Why don't you floss every day?).

2. Use of Closed Questions

Closed questions can be answered with a yes or no or a one- or two-word response and do not provide an opportunity for the patient to elaborate. Closed questions limit the development of rapport between the clinician and the patient. Use closed questions primarily to obtain facts and zero in on specific information. Examples of closed questions include:

- *Are you allergic to latex?*
- *How frequent are your seizures?*
- *Did you check your blood sugar levels this morning?*

3. Use of Open-Ended Questions

Open-ended questions require more than a one-word response and allow the patient to express ideas, feelings, and opinions. This type of questioning helps the clinician gather more information than can be obtained with closed questions. Open-ended questions facilitate good clinician–patient rapport because they show that the clinician is interested in what the patient has to say. Examples of such questions include:

- *What happens to you if you are exposed to latex?*
- *What things can trigger your seizures?*
- *What were your blood sugar levels this morning?*

4. Exploring Details with Open-Ended Questions

Focused, open-ended questions define a content area for the response but pose the question in a manner that cannot be answered in a simple word.

- *Please describe the pain that you are feeling.*
- *Please start from the beginning and tell me how this began and how it has progressed.*
- *Do cold temperatures like an ice-cold drink cause the pain?*
- *Which of your family members have diabetes?*

Communication Tasks during Patient Assessment

When performing assessment procedures, the dental health care provider should remember to communicate with the patient. It is easy for the clinician to concentrate so completely on the steps involved in a procedure that he or she forgets to explain the procedure to the patient or forgets to keep the patient involved in what is happening.

Communication tasks during the patient assessment process include giving information to the patient, explaining a procedure to the patient, seeking the patient's cooperation, providing encouragement to the patient, reassuring the patient, and giving feedback to the patient. Box 1-10 shows a sample dialogue for communication during blood pressure assessment.

1. **Giving Information**

   Example: *We do this to make sure that your temperature, pulse, respiration, and blood pressure are OK before starting any treatment.* Other ways of phrasing this include:

   - *This is . . .*
   - *I need to . . .*
   - *This is important because . . .*

2. **Explaining a Procedure**

   Example: *I am going to wrap this cuff around your arm and pump some air into it so that I can read your blood pressure.* Other ways of phrasing this include:

   - *I just want to . . .*

- *Now I would like to . . .*
- *Now I am going to . . .*

3. Seeking Cooperation from the Patient

Example: *Could you roll up your sleeve?* Other ways of phrasing this include:

- *I would like you to . . .*
- *If you would just . . .*
- *Would you please . . .*

4. Offering Encouragement

Example: *Yes, that is fine.* Other ways of phrasing this include:

- *That's good.*
- *Well done.*

5. Offering Reassurance

Example: *Don't worry; you will only feel the pressure of the cuff around your arm.* Other ways of phrasing this include:

- *It won't take long.*
- *This might feel a bit strange at first.*
- *Have you had your blood pressure taken before?*

6. Giving Feedback

Example: *Your readings are quite normal*. Other ways of phrasing this include:

- *Everything is OK.*
- *Your blood pressure is a bit high, so I'll let Dr. King know what your readings are.*

BOX **1-10**

Sample Dialogue: Communication Tasks during Blood Pressure Assessment

Clinician: *Now, Mrs. Tanner, I need to take your blood pressure. We do this to make sure that your blood pressure readings are normal before beginning any dental treatment.* [giving information to the patient]

Patient: *Oh . . . I see. I have been taking blood pressure pills; my doctor* *says that it is important to keep my blood pressure under control.*

Clinician: *I am going to wrap this cuff around your arm and pump some air into it so that I can read your blood pressure.* [explaining the procedure to the patient] *Could you please roll up your sleeve a bit?* [seeking cooperation from the patient]

Patient: *Yes.* (rolls up sleeve) *Is this far enough?*

Clinician: *Yes, that's just fine.* (attaches the cuff and begins inflating the cuff) [giving feedback]

Patient: *It feels a bit funny.*

Clinician: *Yes, it does feel funny, but don't worry. I am almost done pumping up the cuff. Then, I will start releasing the air, and you will feel less pressure against your arm.* [offering reassurance to the patient]

Patient: *Is my blood pressure OK?*

Clinician: *Yes. It is quite normal. Your readings today are 110 over 70.* [giving feedback to the patient]

SECTION 4 • The Impact of Electronic Records on Communication

Integrating Computerized Records and Patient-Centered Communication

An **electronic dental record** refers to a computerized system for maintaining patient health information in an electronic, digital format. Electronic dental records are used as a substitute for the traditional paper medical record; material is easier to access and update. Computerized patient records are almost a universal feature in today's dental office. Electronic dental records let dental health care providers easily access information about their patients. Many hygienists, however, find that the computer screens distract from the clinician–patient relationship.

Experts report that a lack of eye contact is the biggest problem with having to input information into a computer. Eye contact establishes trust with patients. A lack of eye contact also prevents the hygienist from being able to read body language and cues from patients.

Several authors have proposed a patient-centered model for the interaction among the clinician, the patient, and the computer.[34,35] Box 1-11 summarizes guidelines, nicknamed POISED, designed to help health care providers communicate effectively with patients while recording data electronically.

BOX
1-11

Tips for Effective Use of Computerized Records

P **Prepare:** Review the electronic record before seeing the patient.
O **Orient:** Briefly explain how the computer will be used during the visit.
I **Information Gathering:**
- Start with your patient's concerns.
- Look at your patient. Make sure your full attention is in listening to the patient.
- As much as possible, indicate your full attention by taking your hands off of the keyboard and facing the patient.
- At various points in the information gathering, explain to the patient that you will pause the conversation to enter information in the chart.
- Enter data to show patient's concerns are being taken seriously.

S **Share:** Tell your patient what you are doing as you do it.
E **Educate:**
- Point to the computer screen; highlight discussed data.
- When possible, display data, such as the patient's blood pressure or probing depths over time.

D **Debrief:** Make sure the patient understands what you said.

Improved Communication with Standardized Nomenclature

With the advent of computerized, electronic records, the medical and dental communities foresaw a need for a standardized nomenclature in patient records. The **Systematized Nomenclature of Medicine—Clinical Terms (SNOMED CT)** is a comprehensive clinical nomenclature of medical terminology. In 1999, the Systematized Nomenclature of Medicine—Clinical Terms (SNOMED CT) was created by the merger and restructuring of clinical terminologies developed by the College of American Pathologists and the National Health Service of the United Kingdom. As of April 2007, SNOMED CT is owned, maintained, and distributed by the International Health Terminology Standards Development Organization, a not-for-profit association in Denmark, in order to promote international adoption and use of SNOMED CT. SNOMED is a multinational and multilingual terminology that can manage different languages and dialects.

The American Dental Association developed the **Systematized Nomenclature of Dentistry (SNODENT)**, a system of descriptive dental codes for use in electronic dental records. SNODENT is a comprehensive nomenclature that contains codes for identifying not only diseases and diagnoses but also anatomy, dental and medical conditions, morphology, risk behaviors (e.g., smoking), and social factors that may affect dental health or treatment. SNODENT is distributed by the American Dental Association as a set of downloadable files.

SNODENT-enabled electronic dental records benefit individuals and evidence-based dental health care by:

- Providing standardized terms for describing dental disease
- Enabling information to be recorded consistently during office visits and among different settings and locations
- Allowing detailed information to be recorded by different people, in different locations, and to be combined into the patient record
- Enabling analysis of patient care services and outcomes
- Enabling the exchange of clinical details between different systems and devices, such as electronic sharing of detailed patient information between the general dental practice and a periodontal practice
- Allowing identification of patients who need follow-up for specific conditions and improved coordination of care

- Enabling a platform-independent, language-independent, cross-cultural oral health record with precise, highly detailed recording of all oral health information
- Enabling terminology to be updated in collaboration with oral health subject matter experts to represent current oral health knowledge

More Information on SNODENT

The SNODENT User Guide may be downloaded at http://www.ada.org.

SECTION 5 • Difficult Conversations with Patients

Communication in a Difficult Patient Encounter

Communication skills are particularly important when dealing with angry patients, disappointed patients, or patients with unrealistic expectations. Anger may be a patient's way to express anxiety (about his or her oral health or a treatment procedure) or dissatisfaction with the care that he or she is receiving.[36] In such situations, the health care provider's first instinct often is to provide additional information about the patient's dental condition or a treatment procedure. Often, a more helpful approach is to acknowledge the emotion that the patient appears to be feeling and explore its causes—before explaining. Helpful skills in these situations include:

- If a patient is angry, acknowledge this feeling and explore its causes before attempting to explain or defend your position.
- If the patient is disappointed, say something like "I wish things were different."
- Box 1-12 provides an example of a communication with a disappointed patient.

BOX 1-12 Example of Communication with a Disappointed Patient

Patient: "I left my old dentist and came here today because nothing is working for me. My old dentist keeps prescribing antibiotics for me. But as soon as I am done taking the medicine, my gums start bleeding again and feel 'itchy.' I have taken antibiotics several times over the past year, and they just don't seem to be working for me. I am very frustrated!"

Hygienist: "So what you are saying is that the antibiotics don't fix the problem. Sounds like you are disappointed." [repeating what you heard and naming the emotion]

Patient: "Yes, I thought the antibiotics would get rid of the bleeding."

Hygienist: "I wish that I could tell you that antibiotics cure gum disease, but they do not. Would it be OK if I explain how gum disease works and then we can discuss where we go from here?" [validating the patient's feeling of disappointment and asking permission before explaining]

Sharing Bad News

Unfortunately, the dental team sometimes has to convey bad news to patients. Examples include telling a patient that he or she has a cancerous lesion, periodontitis, or many teeth that need restorations. Although the dentist usually tells the patient about his or her treatment needs, the hygienist often is asked to clarify the information after the dentist leaves the treatment room.

Difficult conversations with patients are necessary and, when done well, can actually empower patients and help them plan for the future. Sharing bad news with a patient covers several general considerations, including the environment in which the bad news is shared, the components of bad news including emotions, and following up with the patient once the bad news has been shared.

The **SPIKES** mnemonic is a six-step model for sharing bad news with a patient.[37] Table 1-7 summarizes this six-step model for communicating bad news. It is important to realize that even though this is a six-step linear model, the steps may overlap to some degree when having a conversation about bad news.

TABLE 1-7 SPIKES MODEL FOR DELIVERING BAD NEWS

Six Steps	**Concepts**
Setting	• Provide privacy. As much as possible, try to assure that there will not be interruptions while speaking with the patient, such as closing the door to the treatment room, turning off cell phones. • Create a comfortable environment. Present yourself in a calm manner. Sit at eye level with the patient. Sit down and listen. • Maintain a welcoming ("shame-free") environment—whatever emotion the patient may exhibit is OK.
Perception	• Get a sense of the patient's state of mind as well as what facts the patient knows. • Don't assume that you know the patient's concerns. Ask the patient what he or she wants to know. Explore the patient's ideas about the problem (thoughts, worries, expectations) and take the patient's input seriously. "I'm hoping to discuss the proposed treatment. But, first, could you tell me what you want to talk with me about—so we can be sure to address that?" • Try to understand how the problem affects the patient's life.
Invitation	• Invite the patient to talk by asking open-ended questions. • Ask, "What other questions do you have?" • **LISTEN. Listening is the most important skill during a difficult conversation. If the clinician is doing most of the talking, he or she is talking too much! Difficult conversations are about encouraging the patient to explore what is going on and what he or she wants.**
Knowledge	• Explain the problem (such as periodontitis) in plain, everyday language; avoid dental terminology. Use language that the patient will understand. • Give information in small chunks. Avoid the temptation to tell patient the information all at once. • Ask-Tell-Ask Patient (Ask): "I don't understand what a periodontist does." Clinician: "Would it help if I give you an overview?" Patient: "That would be great." Clinician (Tell): "A periodontist is a dentist who specializes in . . . " Clinician (Ask): "Does that answer your questions?" • Pause for 10 seconds so the patient has time to absorb what was said and to respond to it. • Ask, "What other questions do you have?" Reassess until you feel confident that the patient understands the proposed treatment and any treatment options. • Wait for a response from the patient. This is hard to do. Frequently, we just want to do or say something, anything. Just wait!

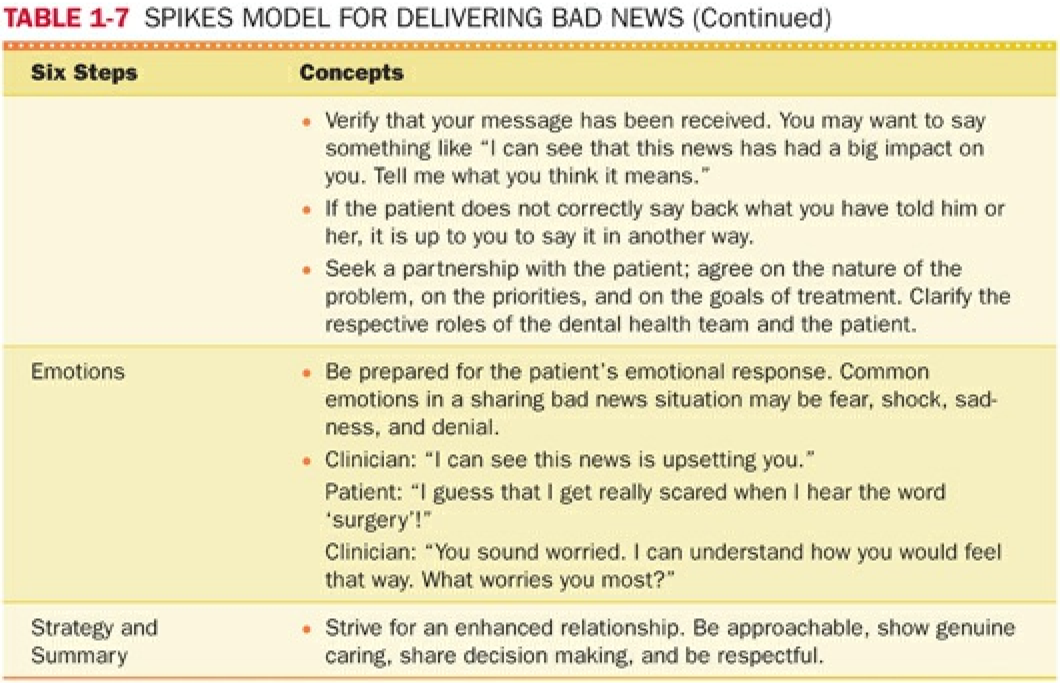


TABLE 1-7 SPIKES MODEL FOR DELIVERING BAD NEWS (Continued)

Six Steps	Concepts
	• Verify that your message has been received. You may want to say something like "I can see that this news has had a big impact on you. Tell me what you think it means." • If the patient does not correctly say back what you have told him or her, it is up to you to say it in another way. • Seek a partnership with the patient; agree on the nature of the problem, on the priorities, and on the goals of treatment. Clarify the respective roles of the dental health team and the patient.
Emotions	• Be prepared for the patient's emotional response. Common emotions in a sharing bad news situation may be fear, shock, sadness, and denial. • Clinician: "I can see this news is upsetting you." Patient: "I guess that I get really scared when I hear the word 'surgery'!" Clinician: "You sound worried. I can understand how you would feel that way. What worries you most?"
Strategy and Summary	• Strive for an enhanced relationship. Be approachable, show genuine caring, share decision making, and be respectful.

SECTION 6 • The Human Element

Patient assessment procedures provide critical information for planning dental hygiene care. These complex procedures require practice and experience to master and methodical attention to detail to perform. Most textbook space—as well as classroom and laboratory time—tends to be devoted to the technical aspects, the steps that comprise the patient assessment procedures. Yet, the nonprocedural human element of the assessment process is equally critical to the success of the assessment process. The **Human Element** section of each module reflects the struggles, fears, and triumphs of the students, clinicians, and patients who engage in the assessment process. In addition, this section may include a fictitious patient scenario that addresses communication and treatment challenges frequently faced by dental hygienists.

Through the Eyes of a Patient

REMEMBER PATIENTS ARE PEOPLE

I know that, as a student, you come into clinic today thinking about what you will accomplish during this appointment. Perhaps you wonder if you will remember to do all of the steps and if you will do them correctly. I am sure that you are worried about your clinic requirements and the instructor's comments about your performance today.

As the patient, I, too, come to this appointment with some needs and concerns. I am not simply a 60 year-old woman with bleeding gums who only has 20 teeth in her mouth. I wish that you would take a moment to consider what is important to me. Most of my needs are simple things that you can do each time that I have an appointment:

- Do not keep me waiting.
- Ask me what I think.
- Really listen to me.
- Do not dismiss or ignore my concerns.
- Talk to me, not at me.
- Keep me informed about what you are doing.
- Do not treat me like a clinical requirement; treat me like a person.
- Do not tell me what I need to do without telling me why it is important and how to do it.
- Respect my privacy; do not talk about me to your classmates.

- Remember who I used to be. I was not always a 60 year-old woman; I used to be a young, enthusiastic research chemist.
- Let me know that you care about me.

Mrs. G, dental patient,
South Florida Community College

Used with permission and excerpted from a letter to the students of the Dental Hygiene Program, South Florida Community College.

PATIENT PARTICIPATION IN CARE DECISIONS

Directions: Think about the last time you were a patient or client (of a physician, nurse, dentist, or attorney). How much did this professional engage you in mutual problem solving? What did this professional do to make you feel included (or excluded) in the planning?

- In what ways did the professional make you feel that your opinions are important?
- In what ways could this professional have included you more in the decision-making process?
- How do your feelings differ when you are included and when the professional takes over and does not consult you?

Compare your experiences with those of your classmates. What has this discussion taught you about mutual problem solving?

Patient Advocacy

YOUR BELIEFS ABOUT HEALTH AND THE PATIENT–HYGIENIST RELATIONSHIP

Directions: The following questions are designed to help you think about yourself as a patient advocate. These questions are challenging because they focus on your values about being a helper. To begin, answer the questions on your own. Later, discuss your responses with your classmates. You and your peers will learn a lot from each other.

- What does *health* mean to you?
- Do you think that dental health is a right or a privilege?
- To what extent do you believe individuals are *responsible* for the development of their own dental health problems?
- What can you do, as a dental hygienist, to increase the likelihood that patients will take better care of their dental health?
- What degree of independence are you comfortable with allowing your patients to make decisions about their own dental treatment?
- What is it you like most about helping patients?

Communication Scenario

THE BUSY PATIENT

You are a dental hygienist who is employed in a general dental practice with a patient base that includes a number of important individuals in the community. You see that Ms. Murphy, a local bank president, is scheduled for her 3-month maintenance appointment with you at 4:00 p.m.

At her last visit, she arrived 15 minutes late due to a "very important meeting that ran late," and stated that she had to be out in 30 minutes for her next engagement across town. Ms. Murphy also constantly interrupted the appointment by using her cell phone for both incoming and outgoing calls. You found her self-care (plaque biofilm control) to be poor, and she presented with a number of areas of toothbrush abrasion that you wanted to address with her during your self-care instruction, but you simply ran out of time. When you attempted to start the conversation, she abruptly stood up stating that she had "more important things to do than talk about the way I brush my teeth." She also refused to return until her next scheduled 3-month appointment. You relay this information to the dentist in the office, who agreed that she was a difficult patient, but encourages you to address her self-care needs at her next appointment.

Discussion Points:

1. How can you best establish rapport with Ms. Murphy?

2. How can good communication benefit Ms. Murphy?
3. What nonverbal communication techniques could be used with Ms. Murphy during her dental hygiene appointment?
4. What kinds of questions would most effectively engage Ms. Murphy in her treatment planning?
5. How can you relay to Ms. Murphy that you are empathetic of her busy schedule yet want her to value and appreciate the importance of effective self-care at home?

SECTION 7 • Skill Check

Skill Checklist: Communications Role-Play

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	S	E
Uses appropriate nonverbal behavior such as maintaining eye contact, sitting at the same level as the patient, nodding head when listening to patient, etc.		

Interacts with the patient as a peer and avoids a condescending approach. Collaborates with the patient and provides advice.		
Communicates using common, everyday words. Avoids dental terminology.		
Listens attentively to the patient’s comments. Respects the patient’s point of view.		
Listens attentively to the patient’s questions. Encourages patient questions. Clarifies for understanding, when necessary.		
Answers the patient’s questions fully and accurately.		
Checks for understanding by the patient. Clarifies information.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

thePoint® NOTE TO COURSE INSTRUCTOR: A collection of role-play scenarios—for use with the Communications Skill Checks—can be downloaded from http://thepoint.lww.com/GehrigPAT4e.

ABOUT THE SKILL CHECK PAGES: The Skill Check pages in the book are designed so that the forms can be removed from the book without loss of text content. They can be torn out and used for role-plays and exercises. If desired, they can be collected and retained for course grade determination.

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MODULE

2

MAKING OUR WORDS UNDERSTANDABLE

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

Clear communication provides the foundation for the patient assessment procedures; yet, many people—even highly educated people—have trouble understanding words used in health care. In addition, health care terminology is filled with jargon—much of which can be difficult for patients to understand. This module explores strategies that dental health care providers can employ to help patients understand dental health information and advice.

MODULE OUTLINE

SECTION 1 **Roadblocks to Effective Communication**
Medical and Dental Terminology
Reading Ability

SECTION 2 **Making Health Care Words Understandable**
Words that May Confuse Dental Patients

SECTION 3 **Using the Internet to Improve Communication Skills**

Procedure 2-1. Procedure for Searching the Internet

SECTION 4 **The Human Element**

Through the Eyes of a Student

Researching Medical Conditions

SECTION 5 **Skill Check**

KEY TERM

Health literacy

OBJECTIVES

- Discuss how effective communication improves health outcomes.
- Discuss strategies for making health care words understandable to the patient.
- Develop improved clinical communication skills and the ability to role model those skills through simulated patient scenarios.

SECTION 1 • Roadblocks to Effective Communication

Medical and Dental Terminology

1. **Unfamiliar Words**
    a. **Health literacy** in dentistry is “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate oral health decisions.”[1–3]
    b. Limited health literacy is a potential barrier to the diagnosis, treatment, and prevention of oral disease.[2] Clear, accurate, and effective communication is an essential skill for effective dental

practice.

c. The American Dental Association (ADA) developed a strategic action plan to provide guidance to dental professionals, policy makers and others to improve health literacy. The plan, *Health Literacy in Dentistry Action Plan 2010-2015*, may be downloaded from the ADA's website in pdf format.

2. **Words in a New Context**

   a. Because health information can be complex and scientific, people often have difficulty reading and understanding written materials such as informational brochures about dental problems and treatments, medical history forms, consent forms, and directions on medication labels.

   b. In many cases, a word may be familiar, but the person may not understand it in a health care context.

      1) For example, "you have a 6-mm pocket around this molar tooth" might have no meaning to a patient. The patient might know what the words *deep* and *pocket* mean in everyday speech but have no idea what these words mean in terms of dental health.

      2) Even a patient who understands these dental terms may need more information than this sentence provides. He or she may need to know what constitutes normal bone support for the teeth.

   c. Box 2-1 provides suggestions for ways in which dental health care providers can improve communication with patients.

BOX **2-1**

Best Practices for Promotion of Clear, Accurate Communication[1]

- Create an environment that is respectful and "shame-free," where patients are offered assistance to better understand and use printed and written communications.[4–6]
- Use clear and plain language in talking, writing, and printed education materials.[7–14]

- Encourage question asking by patients and dialogue between clinicians and patients.[15–19]
- Check for successful communication by asking patients to explain their interpretation of instructions and other information that has been provided.[20–25]
- Offer patient education materials designed for easy use with clear directions.[26–32]
- Periodically assess office/clinic for ways to improve communication.[33,34]

3. **Embarrassment.** Many patients, because they are embarrassed or intimidated, do not ask health care providers to explain difficult or complicated information. If patients do not understand treatment or self-care instructions, a crucial part of their dental care is missing, which may have an adverse effect on their dental health.

Reading Ability

Reading ability can present another roadblock to effective communication.

1. **Reading Ability Correlates to Health Status.** According to a report published in the *Journal of the American Medical Association*, the ability to read is a stronger indication of health status than other variables, including race, age, ethnic group, and educational level.[35,36]
2. **Reading at Eighth to Ninth Grade Level**
   a. One out of five American adults reads at the fifth grade level or below (**Fig. 2-1**).

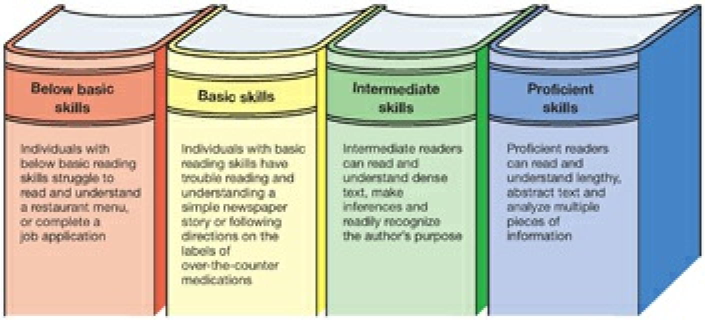
Below basic skills
Individuals with below basic reading skills struggle to read and understand a restaurant menu, or complete a job application
Basic skills
Individuals with basic reading skills have trouble reading and understanding a simple newspaper story or following directions on the labels of over-the-counter medications
Intermediate skills
Intermediate readers can read and understand dense text, make inferences and readily recognize the author's purpose
Proficient skills
Proficient readers can read and understand lengthy, abstract text and analyze multiple pieces of information

FIGURE 2-1 **Reading ability.** The ability to read is a strong indication of an individual's health status. Many individuals have below basic or basic reading skills that make it difficult to read and understand most health care materials.

   b. The average American reads at the 8th to 9th grade level, yet most health care materials are written about the 10th grade level.[37]
   c. Nearly 9 out of 10 U.S. adults have difficulty understanding and using everyday health information that is generally available in health care facilities.[38]
   d. Individuals with low health literacy are less likely to seek health care, comply with recommended treatment, and maintain self-care regimens.[1]

3. **Stigma of Illiteracy.** Patients often are embarrassed or ashamed to admit they have trouble understanding health information and instruction.
   a. There is a strong stigma attached to reading problems, and nearly all nonreaders or poor readers try to conceal the fact that they have trouble reading.[39]
   b. Many people with poor reading skills have developed coping skills that allow them to maneuver in the health care system with the least amount of embarrassment.
   c. Box 2-2 lists some clues that might indicate that the patient may need additional help with written material.

BOX 2-2

Clues that a Patient May Have Reading Problems

- Registration, health history, or other forms filled out incompletely or incorrectly

- Written materials handed to a relative or other person accompanying the patient
- “Can you help me fill out this form, I forgot my glasses?”
- “I will take this with me and read it at home.”
- “I can’t read this now; I forgot my glasses.”

SECTION 2 • Making Health Care Words Understandable

Words that May Confuse Dental Patients

Many people, even highly literate people, have trouble understanding words used in health care. In some instances, a word may be totally unfamiliar. In other cases, a word may be familiar, but the person may not understand it in a health care context.

- Words with a Latin or Greek prefix present special problems. The health science field is full of such words. Here is a small sampling: pre-op, post-op, prenatal, premature, unsweetened, decontaminate, antibacterial. For example, the risk factor for poor readers with diabetes is that they may recognize one part of the word, such as the sweetened in unsweetened, and then skip the “un.” This kind of guessing can lead to the opposite behavior.
- ***The National Patient Safety Foundation believes that three kinds of words cause much of the misunderstanding:***
  - ***Medical words***
  - ***Concept words***
  - ***Value judgment words***
- Tables 2-1 to 2-3 provide examples of common words and phrases that may be confusing to patients and suggestions for common words and phrases that can make health care information more understandable. Table 2-4 provides examples of dental terminology that could be

confusing to patients.

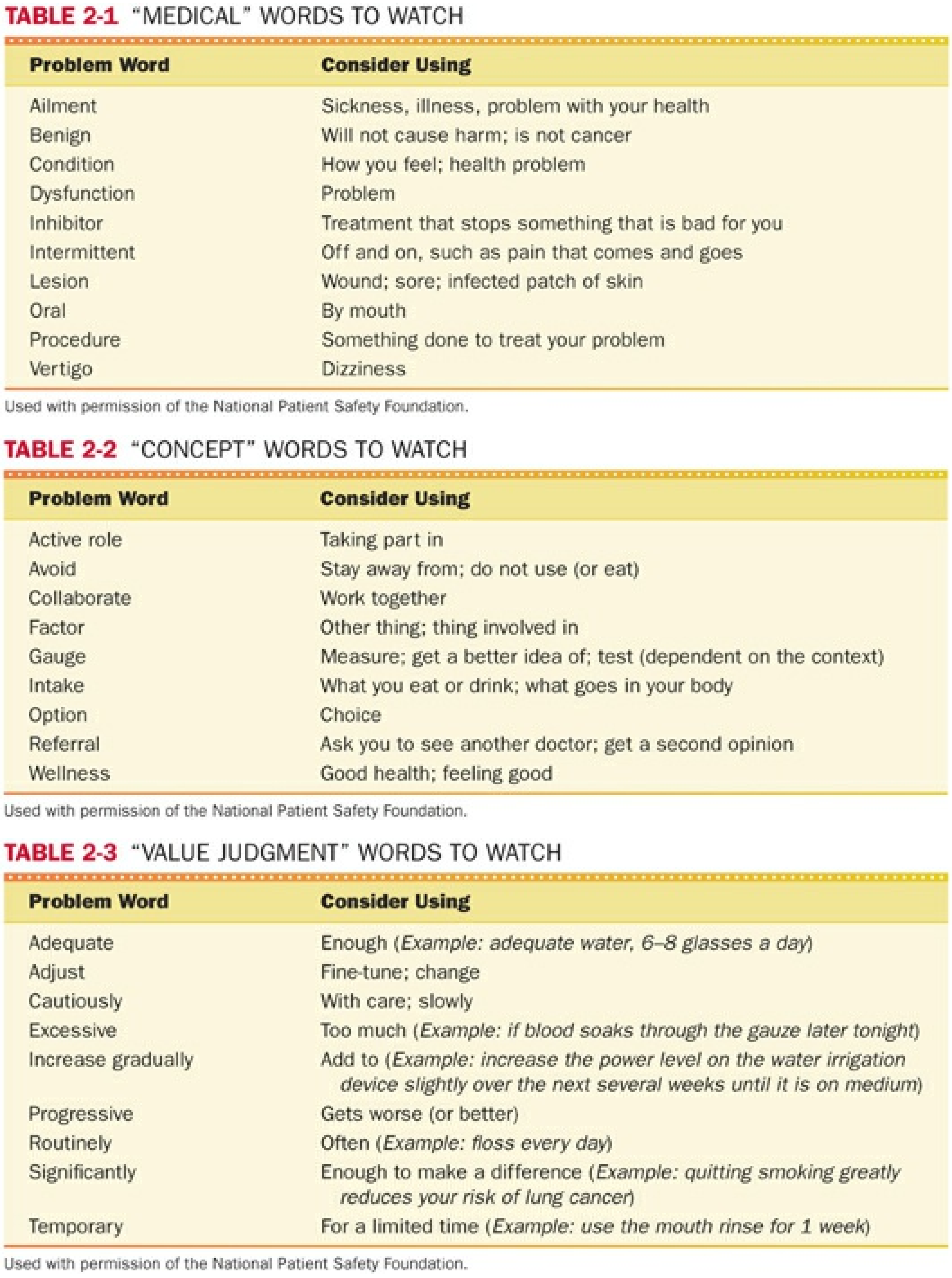

TABLE 2-1 “MEDICAL” WORDS TO WATCH

Problem Word	Consider Using
Ailment	Sickness, illness, problem with your health
Benign	Will not cause harm; is not cancer
Condition	How you feel; health problem
Dysfunction	Problem
Inhibitor	Treatment that stops something that is bad for you
Intermittent	Off and on, such as pain that comes and goes
Lesion	Wound; sore; infected patch of skin
Oral	By mouth
Procedure	Something done to treat your problem
Vertigo	Dizziness

Used with permission of the National Patient Safety Foundation.

TABLE 2-2 “CONCEPT” WORDS TO WATCH

Problem Word	Consider Using
Active role	Taking part in
Avoid	Stay away from; do not use (or eat)
Collaborate	Work together
Factor	Other thing; thing involved in
Gauge	Measure; get a better idea of; test (dependent on the context)
Intake	What you eat or drink; what goes in your body
Option	Choice
Referral	Ask you to see another doctor; get a second opinion
Wellness	Good health; feeling good

Used with permission of the National Patient Safety Foundation.

TABLE 2-3 “VALUE JUDGMENT” WORDS TO WATCH

Problem Word	Consider Using
Adequate	Enough (*Example: adequate water, 6–8 glasses a day*)
Adjust	Fine-tune; change
Cautiously	With care; slowly
Excessive	Too much (*Example: if blood soaks through the gauze later tonight*)
Increase gradually	Add to (*Example: increase the power level on the water irrigation device slightly over the next several weeks until it is on medium*)
Progressive	Gets worse (or better)
Routinely	Often (*Example: floss every day*)
Significantly	Enough to make a difference (*Example: quitting smoking greatly reduces your risk of lung cancer*)
Temporary	For a limited time (*Example: use the mouth rinse for 1 week*)

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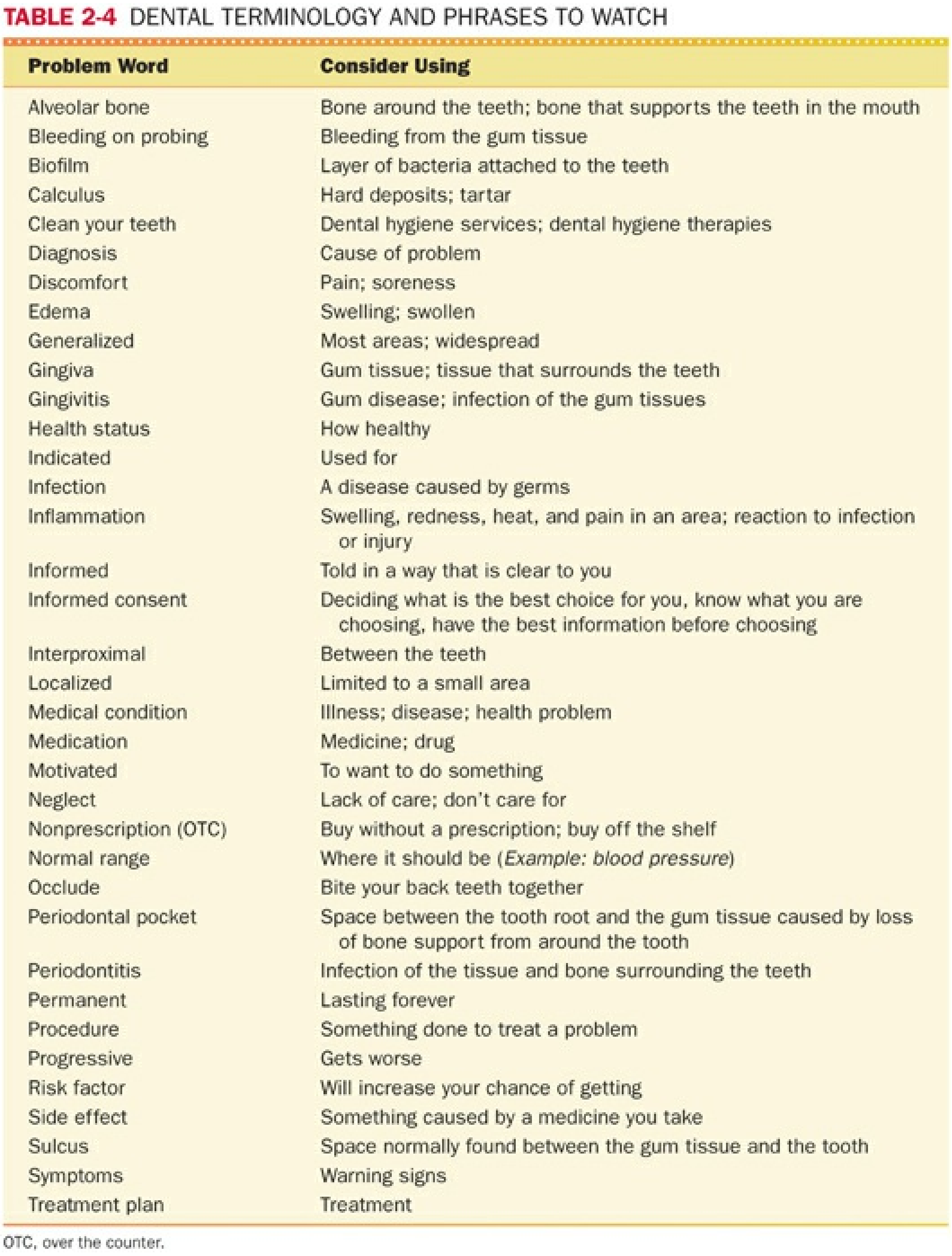

TABLE 2-4 DENTAL TERMINOLOGY AND PHRASES TO WATCH

Problem Word	Consider Using
Alveolar bone	Bone around the teeth; bone that supports the teeth in the mouth
Bleeding on probing	Bleeding from the gum tissue
Biofilm	Layer of bacteria attached to the teeth
Calculus	Hard deposits; tartar
Clean your teeth	Dental hygiene services; dental hygiene therapies
Diagnosis	Cause of problem
Discomfort	Pain; soreness
Edema	Swelling; swollen
Generalized	Most areas; widespread
Gingiva	Gum tissue; tissue that surrounds the teeth
Gingivitis	Gum disease; infection of the gum tissues
Health status	How healthy
Indicated	Used for
Infection	A disease caused by germs
Inflammation	Swelling, redness, heat, and pain in an area; reaction to infection or injury
Informed	Told in a way that is clear to you
Informed consent	Deciding what is the best choice for you, know what you are choosing, have the best information before choosing
Interproximal	Between the teeth
Localized	Limited to a small area
Medical condition	Illness; disease; health problem
Medication	Medicine; drug
Motivated	To want to do something
Neglect	Lack of care; don't care for
Nonprescription (OTC)	Buy without a prescription; buy off the shelf
Normal range	Where it should be (*Example: blood pressure*)
Occlude	Bite your back teeth together
Periodontal pocket	Space between the tooth root and the gum tissue caused by loss of bone support from around the tooth
Periodontitis	Infection of the tissue and bone surrounding the teeth
Permanent	Lasting forever
Procedure	Something done to treat a problem
Progressive	Gets worse
Risk factor	Will increase your chance of getting
Side effect	Something caused by a medicine you take
Sulcus	Space normally found between the gum tissue and the tooth
Symptoms	Warning signs
Treatment plan	Treatment

OTC, over the counter.

SECTION 3 • Using the Internet to Improve Communication Skills

One effective mechanism for health care providers to improve communication skills is through information gathering on the Internet. Dental hygienists can search the Internet for information on medical conditions, medications, and communication techniques. Procedure 2-1 provides guidelines for conducting Internet searches.

Procedure 2-1. Procedure for Searching the Internet

EQUIPMENT:

Computer with Web browser software, a modem to connect to the Internet, and an active Internet connection

Steps	Purpose
1. Connect a computer to the Internet and open an Internet browser. Some of the most popular browsers are Internet Explorer, Safari, and Netscape.	The Internet browser is a software program used for searching and viewing various kinds of Internet resources such as information on a website.
2. Locate a search engine. Most browsers have a built-in search engine. Popular search engines include Google, Lycos, AltaVista, Yahoo, and Excite.	The Internet has millions of pages of information. Search engines help you sift through all those pages to find the information that you need.
3. Look at the search engine's Web page. Near the top of the page, you will see a white box with the word SEARCH next to it. Click the search box and type a	The words that you type in the search box are called "keywords." Keywords tell the search engine what to look for. For best results, it is important to choose the keywords carefully. Use one to three

word or phrase that describes what you are looking for. Next, (1) press the GO button next to the search box or (2) hit the Return key on your keyboard.	words that are as specific as possible.
4. View the results of your search. If you did not find what you are looking for, check spelling and retype or choose new keywords and try the search again.	If the keywords are misspelled or not specific enough, the search engine will not find the information that you need.
5. From the search results page, select an appropriate site and double click the address written in blue to open the website.	This allows you to view the information on the website.
6. If the website information is helpful, either download the information or bookmark the page. If you need additional information, return to the results page or conduct another search.	Downloading the information or bookmarking the website gives you access to it in the future.
7. Try to complete the search process within 10 or 15 minutes.	The ability to effectively search the Internet is a vital information-accessing tool for dental health care providers.

Through the Eyes of a Student

SPEAKING IN PLAIN LANGUAGE

The first semester of school, I struggled to learn all the dental terminology. I had never worked in a dental office and I felt that I was falling behind the others in my class. Each day brought new words for me to understand and learn to pronounce—words like *armamentarium*, *line angle*, and *fossa*. The dental terminology was like a whole new language.

Then, overnight, I found myself speaking a "new language." I felt so proud of all the new words I had learned. I even told my parents that one of the actresses on their favorite television show has a diastema.

Soon I was in clinic, explaining things to my patients using my dental terminology. I thought that I was giving my patients a lot of very important information. That is, until Mrs. M. was my patient. On our first appointment, I told Mrs. M. all about how I would be scaling her teeth in sextants. I asked her if she understood this treatment plan and Mrs. M. gave me this big smile. She said, "I am sure that you are a very good dental hygienist, but my goodness, I have not understood one word you said in the past 10 minutes! If you want me to understand what you are saying you are going to have to talk in everyday English."

Well, Mrs. M. was so nice and had that big grin on her face and we both just stated to laugh. So, right then and there, I told Mrs. M. just to interrupt me every single time that I used a word that she did not understand.

Now, I never talk to a patient without thinking of Mrs. M. Of all the things that I have learned, I think that she taught me one of the most important things. Now, I talk with patients in everyday words.

Kim, student,
South Florida Community College

Researching Medical Conditions

USING THE INTERNET

Select a medical or oral disease/condition to research on the Internet. Try using www.google.com to search for information on the condition. Next, search for support groups or chat rooms that might be helpful for a patient who is experiencing the condition.

- How do you determine which Internet site provide reliable, correct information about the disease or condition? Which sites are simple opinion or a mechanism to sell a product?
- Which chat rooms or support groups are helpful to a patient? Which are not helpful? Why?
- Participate in a discussion about the benefits and dangers of information obtained from an Internet search.

Skill Checklist: Communications Role-Play

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	S	E
Uses appropriate nonverbal behavior such as maintaining eye contact, sitting at the same level as the patient, nodding head when listening to patient, etc.		
Interacts with the patient as a peer and avoids a condescending approach. Collaborates with the patient and provides advice.		
Communicates using common, everyday words. Avoids dental terminology.		
Listens attentively to the patient's comments. Respects the patient's point of view.		
Listens attentively to the patient's questions.		

Encourages patient questions. Clarifies for understanding, when necessary.		
Answers the patient’s questions fully and accurately.		
Checks for understanding by the patient. Clarifies information.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios for the modules in this textbook can be found at http://thepoint.lww.com/GehrigPAT4e.

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MODULE

3

OVERCOMING COMMUNICATION BARRIERS

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

Being able to communicate effectively—or to participate in the exchange of information—is an essential skill for dental health care providers. For many dental health care providers in the United States and Canada, providing patient-centered care involves learning to communicate effectively with patients even when various barriers to communication are present.

This module presents strategies for effectively communicating with:

- Patients who speak a different language than that of the dental health care provider
- Patients with culturally influenced health behaviors that differ from the health care beliefs of the dental clinician
- Young and school age children
- Adolescents
- Older adults

- Children with attention deficit hyperactivity disorder
- Patients who are deaf, blind, or unable to speak
- Patients with disabilities

MODULE OUTLINE

SECTION 1 **Language Barriers**
Cross-Cultural Communication
Cultural Competence

SECTION 2 **Age Barriers**
Communicating with Children and Adolescents
Communicating with Older Adults

SECTION 3 **Vision and Hearing Barriers**
Communication with People Who Are Blind or Have Low Vision
Providing Directions to People Who Are Blind or Have Low Vision
Communication with People Who Are Deaf or Hard of Hearing

SECTION 4 **Speech Barriers**
Communication with People Who Are Unable to Speak Effectively
Communication with People Who Have Had a Laryngectomy

SECTION 5 **Special Health Care Needs**
Disability Cultural Awareness and Etiquette
“People-First” Language
Potential Barriers to Dental Care for Patients with Special Needs
Communication with People Who Have an Intellectual Disability

Communication with Children with Attention Deficit Hyperactivity Disorder
Communication with People Who Have an Autism Spectrum Disorder
Communication with People Who Have Cerebral Palsy

SECTION 6 **The Human Element**
Through the Eyes of a Student
Through the Eyes of Others
Communication Scenario

SECTION 7 **Skill Check**

KEY TERMS

Cultural competency • **Low vision** • **Service animal** • **Presbycusis** • **Dysarthria** • **Aphasia** • **Laryngectomy** • **Patients with special needs** • **People-First language** • **Intellectual/cognitive disability** • **Down syndrome** • **Attention deficit hyperactivity disorder (ADHD)** • **Autism spectrum disorder** • **Cerebral palsy**

OBJECTIVES

- Describe some of the changes in the population of North America during the last few decades and explain how these changes can affect dental health care.
- Give an example of how cultural differences could affect communication.
- Define cultural competence.
- Discuss effective communication techniques for interacting with patients from different cultures.
- Explore how cultural variables impact the delivery of health care services.
- Discuss strategies that health care providers can use to improve communication with children.

- Discuss strategies that health care providers can use to improve communication with adolescents.
- Discuss strategies that health care providers can use to improve communication with older adults.
- Discuss strategies that health care providers can use to improve communication with children with attention deficit hyperactivity disorder (ADHD).
- Discuss strategies that health care providers can use to improve communication with patients who are blind, deaf, or unable to speak.
- Discuss strategies that health care providers can use to improve communication with patients who have a disability or special health care need.

SECTION 1 • Language Barriers

Cross-Cultural Communication

MULTICULTURALISM

1. **Ethnic and Cultural Diversity.** North American communities are becoming increasingly diverse in their ethnic and cultural makeup. This increasingly diverse cultural makeup means that strategies need to be developed to ensure that all segments of the population are receiving the oral health care that they need.[1–5]
    a. Findings from the “Unequal Treatment” report in the United States indicated that health care providers might contribute to ethnic health disparities because of prejudice, stereotyping, and lack of knowledge regarding how to provide care to diverse ethnic populations.[6–8]
    b. In Canada, the report “Building on Values: The Future of Health Care in Canada” identifies ethnic minorities as populations whose health is at greatest risk.[9]
    c. Factors that contribute to health disparities are ethnicity,

socioeconomic status, gender, level of education, and age.[1–5] These same factors contribute to oral health disparities in dental caries rates, periodontal disease, tooth loss, oral cancer, and tobacco use.[1]

2. **Non-English-Speaking Communities.** For many dental health care providers in North America, providing patient-centered care involves learning to communicate effectively with patients from non-English-speaking communities and with cultural backgrounds that may be unfamiliar (Table 3-1).
   a. The United States has always had a significant foreign-born population, but the number of foreign born reached an all-time high of 32.5 million in 2002—equal to 11.5% of the U.S. population—according to the Current Population Survey (CPS).[10] By the year 2030, the United States Census Bureau predicts that 60% of the U.S. population will self-identify as White, non-Hispanic, and 40% will self-identify as members of other diverse racial and ethnic groups.
   b. The Canadian 2001 population census indicates that 18.5% of the population in Canada is foreign-born.
   c. More than one-half of the 2002 foreign-born residents in the United States were born in Latin America—with 30% from Mexico alone. Among foreign-born residents in the United States, 26% were born in Asia, 14% in Europe, and 8% from Africa and other regions.
   d. Data from the 2000 census show that over 47 million persons speak a language other than English at home, up nearly 48% since 1990. Although the majority are able to speak English, over 21 million speak English less than "very well," up 52% from 14 million in 1990.[11,12]
   e. Communication problems can easily occur if a patient is not fluent in English. An individual who is just learning the language may communicate well in everyday situations, but in the dental setting, however, the same person may not fully understand what is being discussed.
   f. Being competent to meet the communication challenge created by a

multicultural population requires a set of skills, knowledge, and attitudes that enable the clinician to understand and respect patients' values, beliefs, and expectations.

TABLE 3-1 U.S.-BORN AND FOREIGN-BORN POPULATION, 1980 TO 2000[11,12]

	U.S.-Born	Foreign-Born
Number in millions		
1980	226.5	14.1
1990	248.7	19.8
2000	281.4	31.1
Percent change		
1980–1990	9.8	40.4
1990–2000	13.1	57.1

MINORITY POPULATIONS IN THE UNITED STATES

According to the United States Census Bureau,[10,11] the proportion of the overall population in the United States considered to be minority will increase from 26.4% in 1995 to 47.2% in 2050. Figure 3-1 shows the racial distribution of current U.S. population. Figure 3-2 shows the percentage increases in each racial minority group that occurred between 2000 and 2010 in the United States.

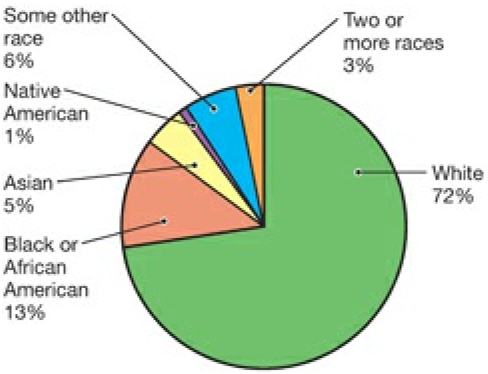

FIGURE 3-1 Current U.S. population reported by race. This pie chart shows the approximate current U.S. population reported by race as summarized from the 2010 United States Census.[13]

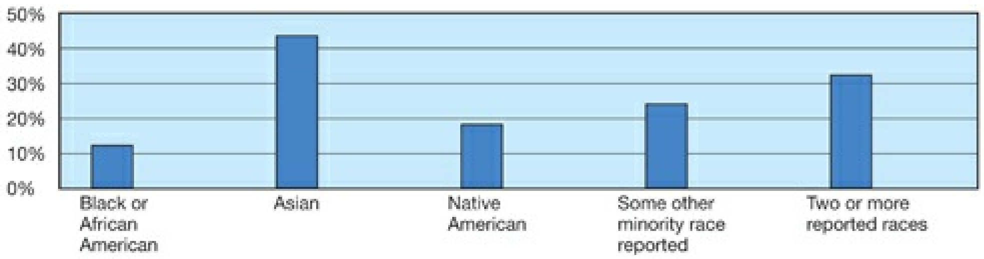

FIGURE 3-2 Percentage increases of minorities reported by race in U.S. national population between 2000 and 2010. The chart shows the approximate percentage increases of racial minority populations in the U.S. population as summarized from the 2010 United States Census.[13]

THE HISPANIC POPULATION IN THE UNITED STATES

- Hispanics are the largest minority ethnic group in the United States, and this group continues to grow in number; as reported in the 2010 United States Census, the Hispanic population increased by 43.0% between 2000 and 2010 (Fig. 3-3).

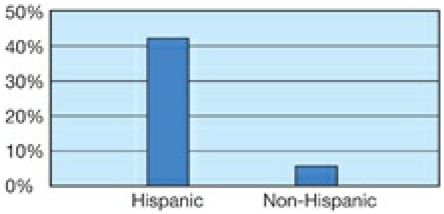

FIGURE 3-3 Percentage increase in Hispanic and non-Hispanic populations in the United States between 2000 and 2010. This chart shows the approximate percentage increases in the Hispanic and non-Hispanic populations in the United States from 2000 to 2010 as summarized from the 2010 United States Census.[14]

- Among all Hispanics living in this country, 62% are native born and 38% are foreign born.
- Currently in the United States, the Hispanic population makes up 16.3% of the overall population (Fig. 3-4). Geographically, there are a number of areas—particularly in the South and West—that have much larger Hispanic populations.

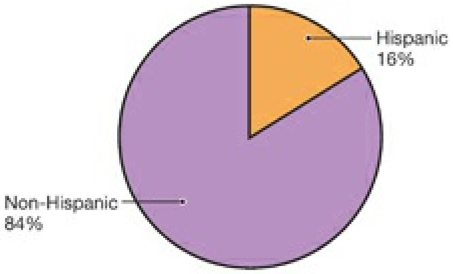

FIGURE 3-4 Current distribution between Hispanic and non-Hispanic populations in the United States. The pie chart depicts the approximate current U.S. population—Hispanic versus non-Hispanic—as reported from the 2010 United States Census.[14]

- English language skills vary throughout the U.S. Hispanic population, and developing strategies for communicating with Hispanics who have limited skills in English is an important goal for all health care providers in the United States.

Cultural Competence

Cultural competency is the application of cultural knowledge, behaviors, interpersonal skills, and clinical skills to enhance a dental health care provider's effectiveness in managing patient care.

- Cultural competence indicates an understanding of important differences that exist among various ethnic and cultural groups in our country.

- Understanding patients' diverse cultures—their values, traditions, history and institutions—is not simply political correctness. It is essential in providing quality patient care.
- Culture shapes individuals' experiences, perceptions, decisions, and how they relate to others. It influences the way patients respond to dental services, preventive interventions, and impacts the way dental health care providers deliver dental care.
- In a culturally diverse society, dental professionals need to increase their awareness of and sensitivity toward diverse patient populations and work to understand culturally influenced health behaviors. Box 3-1 outlines actions to develop cultural competence.

BOX
3-1

Ways to Develop Cultural Competence

- Recognize your own assumptions.
- Value diversity. Demonstrate an appreciation for the customs, values, and beliefs of people from different cultural and language backgrounds.
- Demonstrate flexibility. Carry out changes to meet the needs of your diverse patients.
- Communicate respect. Do not judge. Show empathy.

CULTURAL DIFFERENCES

Dental professionals interact with people from varied ethnic backgrounds and cultural origins who bring with them beliefs and values that may differ from the care provider's own.

- Understanding cultural differences can aid communication and thereby improve patient care.
- Preconceived ideas about a given culture can hinder a clinician from providing good care.
- Each patient is unique, and his or her dental care needs differ. Some

cultures may be offended by the intensely personal questions necessary for a health history and may perceive them as an inexcusable invasion of privacy.

- People of various backgrounds also perceive the desirability of making direct eye contact differently.
- To help avoid miscommunication and offending patients, dental health care providers must be sensitive to these cultural differences.

TIPS FOR IMPROVING CROSS-CULTURAL COMMUNICATION

Cross-cultural communication is about dealing with people from other cultures in a way that minimizes misunderstandings and maximizes trust between patients and health care providers. The following simple tips will improve cross-cultural communication.

1. **Speak slowly, not loudly.** Slow down and be careful to pronounce words clearly. Do not speak loudly. A loud voice implies anger in many cultures. Speaking loudly might cause the patient to become nervous. Use a caring tone of voice and facial expressions to convey your message.
2. **Separate questions.** Try not to ask double questions. Let the patient answer one question at a time.
3. **Repeat the message in different ways.** If the patient does not understand a statement, try repeating the message using different words. Be alert to words that the patient understands and use them frequently.
4. **Avoid idiomatic expressions or slang.** American English is full of idioms. An idiom is a distinctive, often colorful expression whose meaning cannot be understood from the combined meaning of its individual words, for example, the phrase “to kill two birds with one stone.”
5. **Avoid difficult words and unnecessary information.** Use short, simple sentences. Do not overwhelm the patient with too many facts and lengthy, complicated explanations.
6. **Check meanings.** When communicating across cultures never assume

that the other person has understood. Be an active listener. Summarize what has been said in order to verify it. This is a very effective way of ensuring that accurate cross-cultural communication has taken place.

7. **Use visuals where possible.** A picture really is worth a thousand words; the universal language of pictures can make communication easier. Picture boards (Fig. 3-5) with medical/dental images are helpful in getting your message across.

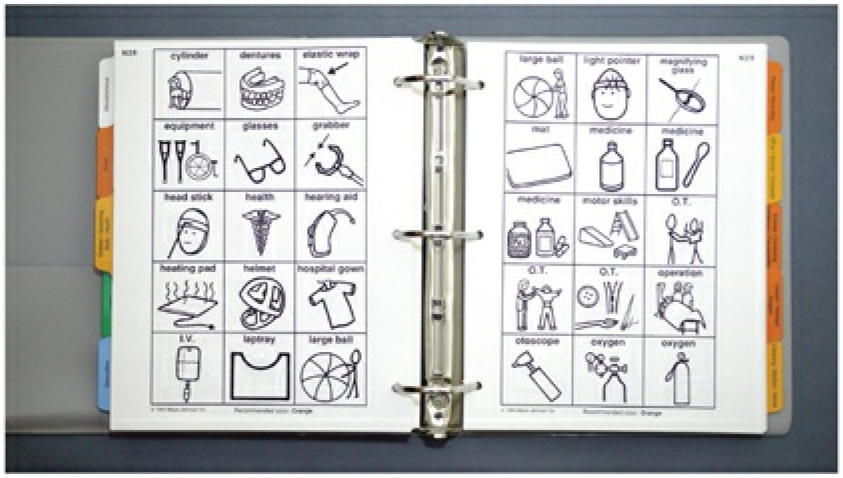
cylinder
dentures
elastic wrap
equipment
glasses
grabber
head stick
health
hearing aid
heating pad
helmet
hospital gown
I.V.
laptray
large ball
large ball
light pointer
magnifying glass
mat
medicine
medicine
medicine
motor skills
O.T.
O.T.
O.T.
operation
otoscope
oxygen
oxygen

FIGURE 3-5 **Picture board.** A picture board can be used to communicate when pictures are more effective than words. (From Carter PJ, Lewsen S. *Lippincott's Textbook for Nursing Assistants*. Philadelphia, PA: Lippincott Williams & Wilkins; 2005.)

8. **Avoid negative questions.** For example, "So then, you don't want an appointment on Monday?" A better question would be "What day of the week is best for you?" Questions with negative verbs such as "don't" or "can't" are particularly confusing to Asian patients.
9. **Take turns.** Give the patient time to answer and explain his or her response.
10. **Be supportive.** Giving encouragement to those with weak English skills gives them confidence and a trust in you.
11. **Use humor with caution.** In many cultures, health care is taken very seriously. Some foreign-born patients may not appreciate the use of humor or jokes in the dental office setting.
12. **Watch for nonverbal cues.** Be attentive for signs of fear, anxiety, or confusion in the patient.
13. **Use interpreters to improve communication.** If the patient speaks no

English or has limited understanding, use a trained clinical interpreter who is fluent in the patient's native language as well as in medical and dental terminology. When using an interpreter, speak directly to the patient rather than to the interpreter.

14. **Don't use family members as translators.** A family member who is not knowledgeable in medical and dental terminology is likely to translate your message incorrectly. The presence of a family member or friend may also constitute a serious breach of patient confidentiality.
15. **Ask permission to touch the patient.** Ask permission to examine the patient and do not touch the patient until permission is granted.
16. **Check for understanding.** Ask the patient to repeat instructions. Correct any misunderstandings. This can be done diplomatically by saying something like "Will you repeat the instructions that I gave you to make sure that I did not forget anything?"
17. **Provide written material.** When possible, provide simple, illustrated materials for the patient to take home.

SECTION 2 • Age Barriers

Young children, adolescents, and older patients present unique communication concerns. Even experienced health care providers can find it challenging to communicate effectively with individuals who are much younger or older in age. It can be difficult to relate to the life experiences or health problems of someone who is 30 or 40 years older. Some health care providers with limited experience with young children find it difficult to know what to say and what not to say when speaking with young children. Children and adolescents frequently are accompanied to the office by a parent. An adult child or caregiver may accompany older adults. Parents, adult children, and caregivers add a unique aspect to the communication process. The patient should always be the focus of the clinician's attention and, where possible, information is exchanged directly with the patient. Suggestions for communicating with children, adolescents, and older adults are outlined in Box 3-2, Box 3-3, and Box 3-4.

Communicating with Children and Adolescents

BOX
3-2

Strategies for Communicating with Children

- Introduce yourself to the child. Speak softly; use simple words and the child's name.
- Adjust your height to that of the child.
- Treat children with respect—over the age of 4 years, they can understand a lot.
- Describe actions before carrying them out.
- Make contact with the child (e.g., "I promise to tell you everything I'm going to do if you'll help me by cooperating.").
- Talk to young children throughout the assessment procedure.
- Give praise during each stage of the assessment, such as "that's good," "well done," etc.
- Be aware of needs and concerns that are unique to children. For example, children may avoid wearing orthodontic headgear due to pressures and comments from peers.
- Do not ask the child's permission to perform a procedure if it will be performed in any case.
- Do not talk about procedures that will be done later in the appointment to children who are younger than 5 years of age. Very young children have no clear concept of future events and will imagine the worst about what could happen.
- Communicate all information directly to the child or to both child and parent, ensuring that the child remains the center of your attention. If complex information must be communicated to the parent, arrange to speak to the parent alone (without the child's presence).

BOX
3-3

Strategies for Communicating with Teens

- Speak in a respectful, friendly manner, as to an adult.
- Respect independence; address the teenager directly rather than the parent.
- Obtain health history information directly from the teenager, rather than the parent, if possible.
- Recognize that a teenager may be reluctant to answer certain questions honestly in the parent's presence.
- Ask questions about tobacco, drug, or alcohol use privately.
- Some teenagers may be intensely shy or self-conscious; others may be overconfident and boastful. Allow silence so that the teenager can express opinions and concerns.

BOX
3-4

Strategies for Communicating with Older Adults

- Before you begin your conversation, reduce background noises that may be distracting (close the treatment room door; move from a noisy reception area to a quieter place).
- Begin the conversation with casual topics such as the weather or interests of the person.
- Keep your sentences and questions short. Avoid quick shifts from topic to topic.
- Allow extra time for responding. As people age, they function better at a slower pace; do not hurry them.
- Take time to understand the patient's true concerns. Some older people will hold back information feeling that nothing can be done or not wanting to "waste your time."
- Take time to explain in easy-to-understand language the findings of your examination.
- Look for hints from eye gaze and gestures that your message is being understood.
- Speak plainly and make sure that the patient understands by having him

or her repeat instructions. For example, say, “I may have forgotten to tell you something important. Would you please repeat what I told you?”

Communicating with Older Adults

The U.S. population is aging at a dramatic rate. The U.S. population of persons 65 years and older will increase by 76% from 2010 to 2030. The numbers of persons 85 years and older in the United States will increase by 116% from 2010 to 2030. This tremendous demographic shift will have a profound effect on the health care sector. Over the next 50 years or so, there will most likely be an increased demand for dental health care providers skilled in caring for the geriatric population. Communicating with older people often requires extra time and patience because of physical, psychological, and social changes of normal aging. Communicating with older adults requires many of the same rules as for children—the patient should always be the focus of the dental health care provider’s attention.

SECTION 3 • Vision and Hearing Barriers

Communication with People Who Are Blind or Have Low Vision

According to the National Eye Institute, 1.3 million Americans are blind and 2.9 million Americans have low vision.[15] **Low vision** means that even with corrective lenses and/or medical treatment, people have difficulty performing everyday tasks. Box 3-5 presents suggestions for effective communication with a person who is blind or has low vision.

BOX 3-5 Strategies for Communicating with a Person Who Is Blind or Has Low Vision

- As soon as you enter the room, be sure to greet the person. This alerts the person to your presence, avoids startling him or her, and eliminates uncomfortable silences. Address the person by name, so he or she will immediately know that you are talking to him or her rather than someone who happens to be nearby. When greeting a person who is blind or has low vision, do not forget to identify yourself. For example, “Hello, Mrs. Jones. I am Robin Shiffer, the dental hygienist here in Dr. Rolfs’ office.”
- Speak directly to person who is blind, not through an intermediary, such as a relative or caregiver.
- Speak distinctly, using a natural conversational tone and speed. Unless the person is hard of hearing, you do not need to raise your voice.
- Explain the reason for touching the person before doing so.
- Be an active listener. Give the person opportunities to talk. Respond with questions and comments to keep the conversation going. A person who has low vision cannot necessarily see the look of interest on your face, so give verbal cues to let him or her know that you are actively listening.
- Always answer questions and be specific or descriptive in your responses.
- Orient the person to sounds in the environment. For example, explain and demonstrate the sound that an ultrasonic instrument makes before using it in the patient’s mouth.
- Tell the patient when you are leaving the room and where you are going (i.e., “I am going to develop the x-rays that we just took.”).
- Be precise and thorough when you describe people, places, or things to someone who is blind. Do not leave out things or change a description because you think it is unimportant or unpleasant.
- Feel free to use words that refer to vision during the course of a conversation. Vision-oriented words such as look, see, and watching TV are a part of everyday verbal communication. Making reference to colors, patterns, designs, and shapes is perfectly acceptable. The word *blind* is also acceptable in conversation.

- Indicate the end of a conversation with a person who is blind or has low vision to avoid the embarrassment of leaving the person speaking when no one is actually there.
- When you speak about someone with a disability, refer to the person and then to the disability. For example, refer to “a person who is blind” rather than to “a blind person.”

Providing Directions to People Who Are Blind or Have Low Vision

When giving directions from one place to another, people who are not blind tend to use gestures—pointing, looking in the direction referred to, etc.—at least as much as they use verbal cues. That is not helpful to a person who is blind or has low vision. And often, even verbal directions are not precise enough for a person who cannot see—for example, “It’s right over there” or “It’s just around the next corner.” Where is “there”? Where is “the next corner”? In the dental office, you might say something like “Walk along the wall to your left past three doorways. The room that we want is at the fourth doorway; make a sharp turn to the right to enter the room.”

The Americans with Disabilities Act (ADA) prohibits businesses that serve the public from banning service animals. A **service animal** is defined as any guide dog or other animal that is trained to provide assistance to a person with a disability. The animal does not have to be licensed or certified by the state as a service animal. The service animal should not be separated from its owner and must be allowed to enter the treatment room with the patient. The ADA law supersedes local health department regulations that ban animals in health care facilities. Box 3-6 provides suggestions for useful techniques when acting as a sighted guide for a person who is blind or has low vision.

BOX
3-6

Acting as a Sighted Guide

Sighted guide technique enables a person who is blind to use a person with sight as a guide. The technique follows a specific form and has specific applications.

- Offer to guide a person who is blind or has low vision by asking if he or she would like assistance. Be aware that the person may not need or want guided help; in some instances, it can be disorienting and disruptive. Respect the wishes of the person you are with.
- If your help is accepted, offer the person your arm. To do so, tap the back of your hand against the palm of his or her hand. The person will then grasp your arm directly above the elbow. Never grab the person's arm or try to direct him or her by pushing or pulling.
- Relax and walk at a comfortable normal pace. Stay one step ahead of the person you are guiding, except at the top and bottom of stairs. At these places, pause and stand alongside the person. Then resume travel, walking one step ahead. Always pause when you change directions, step up, or step down.
- It is helpful, but not necessary, to tell the person you are guiding about stairs, narrow spaces, elevators, and escalators.
- The standard form of sighted guide technique may have to be modified because of other disabilities or for someone who is exceptionally tall or short. Be sure to ask the person you are guiding what, if any, modifications he or she would like you to use.
- When acting as a guide, never leave the person in "free space." When walking, always be sure that the person has a firm grasp on your arm. If you have to be separated briefly, be sure the person is in contact with a wall, railing, or some other stable object until you return.
- To guide a person to a seat, place the hand of your guiding arm on the seat. The person you are guiding will find the seat by following along your arm.

Communication with People Who Are Deaf or Hard of

Hearing

An estimated 30 million or 12.7% of Americans 12 years and older had bilateral hearing loss from 2001 to 2008, and this estimate increases to 48.1 million or 20.3% when also including individuals with unilateral hearing loss. Approximately 15% of American adults (37.5 million) report some trouble hearing.[16–18] In describing hearing loss, people who are hard of hearing may say that they can hear sounds but cannot understand what is being said. For many people who are hard of hearing, low-frequency speech sounds such as "a," "o," and "u" may be clearly heard, while other high-frequency sounds such as "s," "th," and "sh" may be much less distinct. In this situation, speech is heard but often misunderstood. "Watch" may be mistaken for "wash" and "pen" for "spent." A clearer comprehension of speech may be gained with a hearing aid or a cochlear implant. However, use of these devices does not restore normal hearing.

Presbycusis (presby = elder, cusis = hearing) is the loss of hearing that gradually occurs in most individuals as they grow old. Everyone who lives long enough will develop some degree of presbycusis, some sooner than others. It is estimated that 40% to 50% of people 75 years and older have some degree of hearing loss. The loss associated with presbycusis is usually greater for high-pitched sounds.

Box 3-7 provides suggestions for actions that can promote effective communication with a person who is deaf or hard of hearing.

BOX
3-7

Strategies for Communicating with a Person Who Is Deaf or Hard of Hearing

- Move closer to the person. Shortening the distance between the speaker and listener will increase the loudness of sound. This approach is much more effective than raising your voice. Never shout as a person who is hard of hearing.
- Reduce background noise. Many noises that we take for granted are

amplified by a hearing aid or cochlear implant, especially while utilizing nitrous oxide analgesia or conscious sedation.

- Talk face to face. Speak at eye level. Do not cover your mouth with a mask when you ask the patient questions or give instructions.
- Try rewording a message. At times, a person with a hearing loss may be partially dependent on speech reading (lip reading) because some sounds may not be easily heard even with a hearing aid. Because some words are easier to speech read than others, rephrasing a message may make it easier for the person to understand.
- Use a notepad to write down important questions or directions so that the person can read them. This helps eliminate misunderstandings. If the person cannot read or reads in a language that is unfamiliar to you, a picture board (see Fig. 3-5) may be quite helpful.
- Make sure that the person fully understands what you said. Some people, especially if the hearing loss is recent, are reluctant to ask others to repeat themselves. They feel embarrassed by their hearing loss. Simply ask the person to repeat what you said. For example, say, “If you could please repeat back to me what I said, I can make sure I told you everything that I need to.”
- Show special awareness of the hearing problem. Call the person with a hearing loss by name to initiate a communication. Give a frame of reference for the discussion by mentioning the topic at the outset (“I would like to review your medications.”).
- Be patient, particularly when the person is tired or ill and may be less able to hear.

SECTION 4 • **Speech Barriers**

Communication with People Who Are Unable to Speak Effectively

It is important to remember that problems with speech or language do not necessarily mean that the person has an intellectual impairment. For example, people who have suffered a stroke are often frustrated when others think that their intellect has been impaired because of their problems with communication. Difficulty with speech does not have anything to do with intelligence. If understanding is difficult, it may be useful to ask the person to write a word or phrase. Box 3-8 provides suggestions for useful actions when communicating with patients with speech impairment.

BOX
3-8

Strategies for Communicating with a Person Who Is Unable to Speak Effectively

- Book longer appointment times to allow for the longer time needed for communication.
- Whenever possible, speak directly to the patient; even if comprehension is limited, the patient will be more responsive if he or she is an active participant.
- Develop a tolerance for silences. Many patients require extra time to process your questions and/or to formulate a response.
- Do not talk while the patient is formulating a response—this is very distracting.
- Try not to panic when communicating with a person who cannot speak effectively. If you feel nervous, do not let it show.
- Never finish a sentence for someone who is struggling with his or her speech—be patient and wait for him or her to finish.
- Find out if the patient has his or her own way of indicating “yes” or “no” (e.g., looking up for yes).
- If you are having problems understanding the person, say so. Do not pretend you understand if you do not as this will inevitably create problems later on. Simply apologize and ask if the patient would mind writing down what it is he or she wants to say.
- If you are having difficulties communicating with the patient, ask permission to direct your questions to the support person. Remember to look directly at the patient from time to time so that he or she still feels

a part of the conversation.
- Use gestures and pictures to help the patient understand. For example, wave hello and goodbye, point to a tooth, or show simple pictures to clarify procedures.

DYSARTHRIA

Dysarthria refers to speech problems that are caused by the muscles involved with speaking or the nerves controlling them. Individuals with dysarthria have difficulty expressing certain words or sounds. Speech problems experienced include:

- Slurred speech
- Speaking softly or barely able to whisper
- Slow rate of speech
- Rapid rate of speech with a “mumbling” quality
- Limited tongue, lip, and jaw movement
- Abnormal rhythm when speaking
- Changes in vocal quality (“nasal” speech or sounding “stuffy”)
- Drooling or poor control of saliva
- Chewing and swallowing difficulty
- Common causes of dysarthria are poorly fitting dentures, stroke, any degenerative neurological disorder, and alcohol intoxication.
- After a stroke or other brain injury, the muscles of the mouth, face, and respiratory system may become weak, move slowly, or not move at all.
- Some former severe alcoholics who have developed brain damage due to drinking may have continued problems with language, even after years of sobriety.

APHASIA

Aphasia is a disorder that results from damage to language centers of the brain.

- It can result in a reduced ability to understand what others are saying, to express ideas, or to be understood.
- Some individuals with this disorder may have no speech, whereas others

may have only mild difficulties recalling names or words.

- Others may have problems putting words in their proper order in a sentence.
- The ability to understand oral directions, to read, to write, and to deal with numbers may also be disturbed.
- For almost all right-handers and for about half of left-handers, damage to the left side of the brain causes aphasia. As a result, individuals who were previously able to communicate through speaking, listening, reading, and writing become more limited in their ability to do so.
- The most common cause of aphasia is stroke, but gunshot wounds, blows to the head, other traumatic brain injury, brain tumor, Alzheimer disease, and transient ischemic attack (TIA) can also cause aphasia.

Communication with People Who Have Had a Laryngectomy

Laryngectomy—the surgical removal of the voice box due to cancer—affects approximately 9,000 individuals each year; most are older adults. People who have undergone laryngectomy have several options for communication:

- **The artificial larynx.** Held against the neck, the artificial larynx transmits an electronic sound through the tissues, which is then shaped into speech sounds by the lips and tongue. The user articulates in the normal way.
- **Esophageal voice.** Esophageal voice is achieved by learning to pump air from the mouth into the upper esophagus. The air is then released, causing the pharyngoesophageal segment to vibrate to produce a hoarse low-pitched voice.
- **Surgical voice restoration.** Fitting a prosthesis or valve into a puncture hole between the trachea and esophagus either at the time of surgery or at a later date may restore voice. The individual occludes the stoma when he or she wishes to speak. Air then passes through the valve into

the esophagus, producing voice in the same way as for esophageal voice.

- **Silent mouthing/writing/gesture.** A small percentage of patients never acquire a voice and are unable to use an electronic larynx. They communicate by silently articulating words or a mixture of writing and gesture.

Box 3-9 provides suggestions for actions that can promote effective communication with a person with a laryngectomy.

BOX
3-9

Strategies for Communicating with a Person with a Laryngectomy

- Use the suggestions provided in Box 3-8.
- Give the patient plenty of time to speak. Do not hurry the person; if the patient feels pressured, it can affect the ability to communicate.
- Ask the patient to repeat if you do not understand. Do not pretend you understand if you do not—it will be obvious to the patient that you do not understand.
- Watch a person's lips if you are finding it hard to understand.
- Do not assume it is a hoax call or that someone playing is a joke if you hear an electronic sounding voice or someone struggling to communicate over the telephone.

SECTION 5 • Special Health Care Needs

Disability Cultural Awareness and Etiquette

American Dental Association defines **patients with special needs** as "those [individuals] who due to physical, medical, developmental or cognitive conditions require special consideration when receiving dental treatment. This can include people with autism, Alzheimer's disease, Down syndrome, spinal cord injuries, and countless other conditions or injuries that can make standard dental procedures more difficult."

According to the United States Census Bureau 2010 survey, approximately 56.7 million people (18.7%) living in the civilian noninstitutionalized population of the United States have some kind of disability. About 38.3 million people (12.6%) have a severe disability.[19] People with disabilities constitute our nation's largest and most diverse minority group. Everyone is represented: all genders, all ages, all religions, all socioeconomic levels, and all ethnic backgrounds. There are many different types of disabilities: vision, hearing, physical, cognitive/intellectual, mental health, visible versus invisible, and developmental versus acquired.

Most people think of cultural awareness as relating to ethnic populations. However, the population of people with disabilities is a growing group that deserves attention in the realm of cultural awareness. Disability etiquette is a large part of cultural awareness for people with special health care needs. As with all patients, each person with a disability or special health care need is unique even within the grouping or classification of a condition, disease or disability they have.

"People-First" Language

The language a society uses to refer to persons with medical conditions or disabilities shapes its beliefs and ideas about them. When we describe people by their medical conditions—such as "He is diabetic," "She is a spina bifida patient"—we devalue them as individuals. In contrast, using thoughtful terminology—such as, "He has diabetes," "The baby has spina bifida"—indicates that he or she has a condition (that does not define him or her as a person). One suggested tool for communicating with and about people with medical conditions or disabilities is "**People-First language**." People-First language emphasizes the *person*, not the *condition/disability*. By placing the person first, the disability is no longer the primary, defining characteristic of an individual, but one of several aspects of the whole person. For example, a person who wears glasses doesn't say, "I have a problem seeing," they say, "I wear/need glasses." Similarly, a person who uses a wheelchair doesn't say, "I have a problem walking," they say, "I use/need a wheelchair."

The significant push to use “People-First” language to avoid an unintentional offense has been met with mixed emotions in the disability community. Regardless of the intent, recognizing and expressing the importance of the value of each individual regardless of their particular abilities is paramount to the relationship between the dental professional, patient, and family/caregivers. Table 3-2 provides examples of “People-First” language.

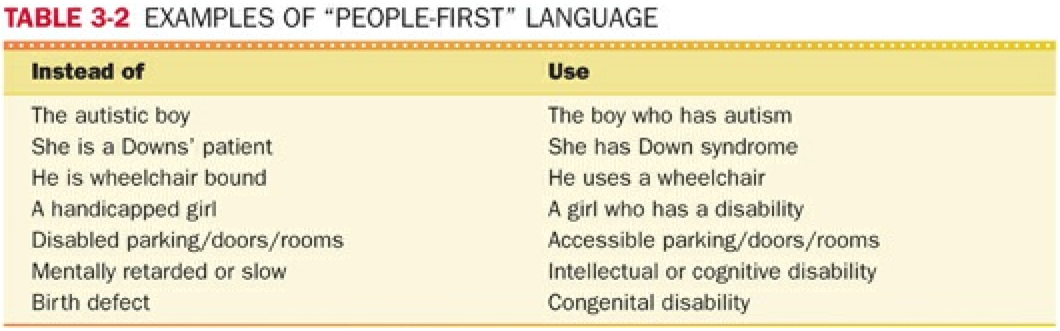

TABLE 3-2 EXAMPLES OF “PEOPLE-FIRST” LANGUAGE

Instead of	Use
The autistic boy	The boy who has autism
She is a Downs’ patient	She has Down syndrome
He is wheelchair bound	He uses a wheelchair
A handicapped girl	A girl who has a disability
Disabled parking/doors/rooms	Accessible parking/doors/rooms
Mentally retarded or slow	Intellectual or cognitive disability
Birth defect	Congenital disability

In addition to language, examples of other types of disability etiquette are presented in Box 3-10.

BOX
3-10

Examples of Disability Etiquette

- Greet and talk directly to the person with a disability.
- Talk to adults like adults unless you know their intellectual age is much lower.
- Assistive devices (wheelchairs, braces, walkers, etc.) are an extension of the person—avoid touching, leaning on, or removing items from their reach without permission.
- Ask permission before offering help.
- When in doubt . . . ask!
- Ask if you can fist bump or shake hands.
- Treat with respect and dignity.
- Relax.
- Don’t worry if you unintentionally use a word or phrase connected to the disability (Saying “Do you *see* what I mean?” to a patient who is

visually impaired.).

Potential Barriers to Dental Care for Patients with Special Needs

Communication with people who have a disability or special health care need includes recognizing possible barriers these patients might encounter prior to arriving at the dental office. Perceptions about dental care for people with special health care needs include positive and negative biases on the part of the dental team, medical team, patient, and patient's family/caregivers.

The dental experience for a patient with a special health care needs begins long before the actual dental appointment. Understanding how many potential barriers the patient has overcome to arrive at the dental appointment can be the key to successful communication and treatment.

- Depending on the nature of the disability or health condition, the patient might be completely dependent on someone else to recognize the need for dental care and act on that need. In some instances, the health values of the *family or caregiver* may determine the frequency of dental care appointments.
- Like anyone else, a patient with a disability may have concerns about the cost of dental treatment. There is a common misconception that all people with special health care needs cannot afford dental care. However, people with special health care needs come from all socioeconomic backgrounds. They have various degrees of insurance coverage and financial resources.
- Regardless of their desire to get dental treatment, transportation barriers are also a concern for some people who rely on others to get them to their appointment. Mistaking a failed appointment or consistently late arrivals as a lack of patient concern for oral health can lead to additional barriers.
- Effective communication with someone who has a disability affecting speech or cognitive abilities can be a challenge in some cases.

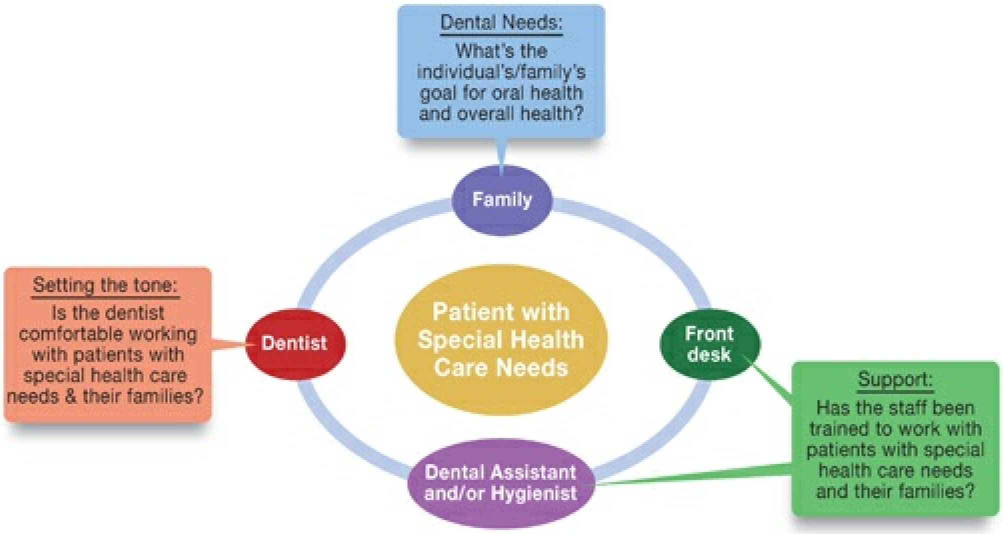
Dental Needs:
What's the individual's/family's goal for oral health and overall health?
Family
Setting the tone:
Is the dentist comfortable working with patients with special health care needs & their families?
Dentist
Patient with Special Health Care Needs
Front desk
Support:
Has the staff been trained to work with patients with special health care needs and their families?
Dental Assistant and/or Hygienist

FIGURE 3-6 **Perceptions of special health care needs.** The quality of care that a patient with special needs receives is impacted by the perceptions of other individuals—such as the patient's family or caregiver—as well as the perceptions and professional expertise of the dental team members.

Communication with People Who Have an Intellectual Disability

People with an **intellectual/cognitive disability** typically have an IQ score of 70 or less with a diagnosis or onset before 18 years of age on the Wechsler & Stanford-Binet Scales. They also have concurrent impairments in adaptive functioning in at least one of the following areas:

- Communication, social skills, self-direction
- Daily home living, self-care activities
- Functional academic, work, health, and safety skills[20,21]

Determining the intellectual age of the patient with a cognitive/intellectual disability is the key to utilizing communication strategies appropriate for the patient. The parent or caregiver can inform the clinician of the patient’s intellectual age. (e.g., A 56-year-old man with the intellectual age of a 5-year-old presents for clinical assessment. The hygienist should communicate with the man in a manner appropriate for a 5-year-old child and include the parent/caregiver in discussions.)

Down syndrome is a set of physical and mental traits caused by a gene problem that happens before birth.[20,22] Children who have Down syndrome tend to have certain features, such as a flat face and a short neck. Down syndrome is a lifelong condition. Down syndrome is one of the most common causes of intellectual disability diagnosed in the United States. Patients with Down syndrome are typically affectionate, gentle, and cheerful, with the occasional bout of stubbornness. The hygienist should avoid providing overly friendly attention to the patient, especially of the opposite sex. Patients with Down syndrome tend to be hypersexual and easily convinced that you are their boyfriend or girlfriend. Box 3-11 provides suggestions for communicating with an individual with an intellectual disability.

BOX
3-11

Strategies for Communicating with a Person with an Intellectual Disability

- Determine the intellectual age of the patient and communicate based on that age rather than the chronological age of the patient.
- Speak slowly in simple, easy-to-understand sentences.
- Give only one simple command at a time.
- Give the patient plenty of time to speak. Do not hurry the person; if the patient feels pressured, it can affect the ability to communicate.
- Focus the majority of your attention on the patient but also review with the family/caregiver.
- If the patient is fairly dependent on the family/caregiver, ask the caregiver what works best at home when providing oral health care.
- Describe actions before carrying them out (tell-show-do).
- Praise often with verbal praise, high fives, fist bumps, etc.
- Do not ask permission to perform a procedure if it will be performed in any case. (e.g., “I am going to check your teeth now, is that OK?—What if the patient’s answer is NO?)

Communication with Children with Attention Deficit Hyperactivity Disorder

Attention deficit hyperactivity disorder (ADHD) is a developmental disorder believed to be caused primarily by genetic factors. Although this disorder occurs mainly in boys, it can also occur in girls. Currently, many researchers think certain neurotransmitters in the brain may be deficient in patients with this disorder. ADHD is a chronic condition with 30% to 50% of those individuals diagnosed in childhood continuing to display some symptoms into adulthood. Since adolescents and adults with ADHD tend to develop coping mechanisms for some or all of their behavioral impairments, management of children with this condition is the greatest challenge in a dental setting. Children with ADHD can display an inability to regulate their behavior to such a degree that it can have significant effects on their daily lives. These patients can display a variety of problems that can make the delivery of dental care difficult. Examples of these types of problems include the following:

- Difficulties with sustained attention
- Difficulties with impulse control
- Excessive activity
- Increased distractibility
- Difficulty following rules or instructions

Treatment for patients with this disorder can involve some combination of medications, behavior modifications, lifestyle changes, and counseling. Box 3-12 outlines strategies that can aid in communicating with children with ADHD during an appointment in a dental setting.

BOX
3-12

Strategies for Improving Communication with Children with Attention Deficit Hyperactivity Disorder

- If the child is on medications for ADHD, remind the parents to have the child take the medications (as prescribed by the patient's physician) on the day of the appointment.
- Schedule the child for the time of the day when the child will best tolerate the appointment—this is usually morning appointments, but

the child's parents can guide you as to what is best for the individual patient.

- Explain to the child what is expected of him or her during the appointment; during the explanation to the child, always use clear and concise words.
- When giving instructions to the child during the appointment, give only one direction or command at a time.
- Sincerely praise the child who is doing well during the appointment.
- Consider using small rewards for reinforcement as you might with other children.
- Focus on the task and ignore minor inappropriate behaviors in the child.

Communication with People Who Have an Autism Spectrum Disorder

Autism spectrum disorder describes a range of conditions classified as neurodevelopmental disorders that impair a child's ability to communicate and interact with others. It also includes restricted repetitive behaviors, interests, and activities. These issues cause significant impairment in social, occupational, and other areas of functioning. The autism spectrum disorder diagnosis encompasses and replaces the older individual disorder names of autism, Asperger syndrome, pervasive developmental disorder not otherwise specified, and childhood disintegrative disorder.[23] According to a 2010 Centers for Disease Control and Prevention survey of 8-year-olds, 1 in 68 children have autism spectrum disorder.[20,24] Unlike patients with Down syndrome—whose behavior and communication skills are fairly easy to predict and manage—symptoms of autism spectrum disorder may vary greatly from individual to individual and even within the same person on a different day or time of day.

Symptoms of autism spectrum disorder fall into two categories and vary by individual. Individuals with *social symptoms* may look, listen, and respond to people less; respond unusually to anger, distress, or affection or rarely share toys/activities or show things to others. Persons with *repetitive and stereotypical behaviors* may exhibit behaviors such as arm flapping or unique walking patterns or fixed routines, such as lining up toys, books, etc. Associated conditions that can affect communication may include sensory issues (over- or under-reaction to sights, sounds, smells, textures, and tastes), intellectual disability, or mental disorders. Box 3-13 presents strategies for communicating with a person with autism spectrum disorder.

BOX
3-13

Strategies for Communicating with a Person with Autism Spectrum Disorder

- If possible, speak to a family member or caregiver prior to the appointment to learn about the patient's likes/dislikes, fears, mannerisms, etc. This information can be invaluable! (e.g., Johnny is an 18-year-old with autism spectrum disorder that cooperates well at the physician's office and at home for toothbrushing but screams when he tastes or smells mint. Good to know. Remove mint products from the treatment room prior to seating the patient.)
- Prepare a photo book of the dental office showing all the rooms, equipment, and staff to be sent to the patient/family prior to the appointment to prepare the patient for the new surroundings.
- Schedule appointments for times when the waiting room is not as crowded and quieter.
- If the patient has an intellectual disability, adjust communication based on intellectual age rather than the chronological age of the patient.
- Do not insist on eye contact. Speak with a soft tone and calm demeanor. Do not hurry the person or insist on a response; if the patient feels pressured, it can affect the ability to communicate.
- Be prepared for unusual reactions to lights, sounds, textures, taste, and touch. Be creative when something elicits an unfavorable reaction. (e.g., If the dental chair light is irritating to the patient, try a lighted mouth mirror.)

- If multiple visits are required, consistency and routine are very important (same person, room, colors, etc.).

Communication with People Who Have Cerebral Palsy

Cerebral palsy is a group of neurological disorders diagnosed in infancy and early childhood. Body movement and muscle coordination are permanently affected but do not worsen over time. Cerebral palsy is the most common motor disability in childhood. The Centers for Disease Control and Prevention estimates that an average of 1 in 323 children in the United States has cerebral palsy. Associated conditions include intellectual disability in approximately 30% to 50% of individuals with cerebral palsy. However, not all patients with cerebral palsy should be assumed as having intellectual disabilities. Other associated conditions may include seizures (up to 50%); delayed growth and development; and problems with vision, hearing, or speech.[20]

Individuals with cerebral palsy may exhibit stiff muscles and awkward movements or uncontrollable movements in the hands/arms and feet/legs. Common dental issues or concerns that could hamper communication and assessment may include difficulty swallowing with risk of aspirating food/fluid, drooling, and/or an overactive bite or gag reflex. Refer to Box 3-11 for strategies for patients with intellectual disability. Box 3-14 provides suggestions for communicating with a person who has cerebral palsy.

BOX
3-14

Strategies for Communicating with a Person with Cerebral Palsy

- Determine the intellectual age of the patient and communicate based on that age rather than the chronological age of the patient.
- Maintain eye contact when the patient is able to remain focused on you.
- Speak with a soft tone and calm demeanor. A relaxing environment can reduce anxiety and uncontrolled body movements.
- Do not hurry the person or insist on a response; if the patient feels

pressured, it can affect the ability to communicate.

- Maintain clear paths in the office and operatory to allow for uncontrolled gait.
- Allow patient to settle into the most comfortable position that is possible for them. Don’t force them into position.
- Follow the patient’s movements and observe patterns in order to predict the uncontrolled movements of hands, arms, legs, or feet.
- Avoid trying to restrict or harness movement which might intensify the muscle response.
- Ask the patient before moving them. Use gentle, slow position changes and pressure.
- Describe actions before carrying them out (tell-show-do).
- Keep appointments short and take frequent breaks. Use mouth props as needed.
- Praise often to eliminate the patient’s stress. The patient’s anxiety and strong desire to cooperate will sometimes make involuntary movements more pronounced.
- Focus the majority of your attention on the patient but also review with the family/caregiver as needed.
- If the patient is fairly dependent on the family/caregiver, ask them what works best at home when providing oral health care.

SECTION 6 • The Human Element

Through the Eyes of a Student

HELPING PATIENTS WITH SPECIAL NEEDS

I have this 92-year-old patient, Mrs. W., who always comes with her daughter. Mrs. W. lives in an assisted living facility. I saw Mrs. W. in the dental clinic last year, too, and she always has a heavy amount of plaque when she comes in. I talked to her daughter about this in the past. The daughter lives an hour away from her mother and so cannot be there to brush her mother's teeth every day. Today, the daughter said that she asked the staff at the assisted living facility to assist her mother in brushing her teeth, but she doesn't think that they have been helping her. I felt sorry for Mrs. W. because I know assisted living facilities commonly are understaffed and oral hygiene care is not a priority.

The daughter said that there is a problem getting the staff to do things for her mother because they are so busy. She said that her mother has low blood sugar and is supposed to have a protein snack each afternoon. Her mother didn't get her needed snack until her physician wrote it as "a prescription" to the staff.

For me, her story about the snack was like a light bulb going off in my head! What a great idea! So I talked with our clinic's dentist and he wrote "brush teeth after evening meal" on a prescription and signed it. Mrs. W.'s daughter was very pleased that we cared enough about her mother to write this "prescription."

Melissa, recent graduate
East Tennessee State University

Through the Eyes of Others

BEING DIFFERENT

Exercise: Understanding Others. Read the lyrics to the song **"Don't Laugh at Me"** written by Allen Shamblin and Steve Seskin. Write or participate in a group discussion about a childhood experience of your own or one that you witnessed in which being different was a source of pain.

Don't Laugh at Me

By Steve Seskin and Allen Shamblin

I'm a little boy with glasses
The one they call a geek
A little girl who never smiles
'Cause I've got braces on my teeth
And I know how it feels
To cry myself to sleep
I'm that kid on every playground
Who's always chosen last
I'm the one who's slower
Than the others in my class
You don't have to be my friend
But is it too much to ask?
Chorus:
Don't laugh at me don't call me names
Don't get your pleasure from my pain

In God's eyes we're all the same
Someday we'll all have perfect wings
Just how much you care

THE ELDERLY

Directions. Think of the first words that come to mind when you envision providing dental care to an "old" patient.

- Reflect on how your expectations may influence or bias your interaction with the patient.
- Reflect upon what it means to allow someone to "save face."
- Consider ways in which a dental hygienist can help an elderly patient preserve his or her dignity in the face of a limitation he or she experiences (i.e., loss of hearing, memory loss, arthritis of the hands).

Communication Scenario

THE JOB INTERVIEW

You are a dental hygienist who is deaf and have just graduated from a dental hygiene program at the top of your class. Although you have speech, you always sat in the front row of the classroom so that you could read the lips of your professors. During your schooling, the only accommodation that you utilized was assistance from a note taker. Your clinical instructors also utilized the use of face shields as opposed to face masks for easier communication.

You have applied for a dental hygiene position at the office of Dr. Daniel and will be the only employee in the dental office who is hearing-impaired. The patient population of Dr. Daniel's practice is vastly multicultural. Dr. Daniel wants to offer you the position but is concerned about communication barriers.

Discussion Points:

1. What if any modifications must be made to ensure you are able to effectively communicate with all of the office staff?
2. What if any accommodations must be made to ensure that you are able to effectively communicate with your patients during your hygiene appointments?
3. What tips can be used for improving cross-cultural communication between you and your dental hygiene patients?
4. Is it ethical for Dr. Daniel to refuse to hire you based on your hearing impairment?

Skill Checklist: Communications Role-Play

Student: ______________________________ Evaluator: ______________________________

Date: ________________________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	S	E
Uses appropriate nonverbal behavior such as maintaining eye contact, sitting at the same level as the patient, nodding head when listening to patient, etc.		
Interacts with the patient as a peer and avoids a condescending approach. Collaborates with the patient and provides advice.		
Communicates using common, everyday words. Avoids dental terminology.		
Listens attentively to the patient’s comments. Respects the patient’s point of view.		
Listens attentively to the patient’s questions.		

Encourages patient questions. Clarifies for understanding, when necessary.		
Answers the patient's questions fully and accurately.		
Checks for understanding by the patient. Clarifies information.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A collection of role-play scenarios—for use with the Communications Skill Checks—can be downloaded from http://thepoint.lww.com/GehrigPAT4e.

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MODULE

4

MOTIVATIONAL INTERVIEWING FOR INFORMATION GATHERING

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module introduces the motivational interviewing perspective on assessment. Motivational interviewing offers both a philosophy and specific communication strategies that can be useful in conducting assessments in a more patient-centered fashion. Readers are also encouraged to learn more about motivational interviewing in order to fully appreciate the information provided in this module.

MODULE OUTLINE

SECTION 1	**Introduction to Motivational Interviewing** Approaches to Fostering Behavioral Change in Patients Motivational Interviewing and Patient Assessment

SECTION 2 **Motivational Interviewing Approach to Assessment**
Interpersonal Communication Styles
Core Motivational Interviewing Skills
Using the Tools
Potential Concerns of Using Motivational Interviewing for Patient Assessment
Benefits of Using Motivational Interviewing for Patient Assessment

SECTION 3 **The Human Element**
Sample Communication Scenario

SECTION 4 **Skill Check**

KEY TERMS

Motivational interviewing • **Directing communication style** • **Following communication style** • **Guiding communication style** • **Open questions** • **Affirmations** • **Reflections** • **Summaries** • **Asking permission** • **Elicit–provide–elicit**

OBJECTIVES

- Describe the continuum of communication styles and the placement of motivational interviewing on the continuum.
- Describe the relevance of motivational interviewing for information gathering during the patient assessment process.
- During role-plays or in the clinical setting, integrate motivational interviewing communication strategies into existing assessment intake processes.
- During role-plays or in the clinical setting, encourage a patient-centered approach for acquisition of clinical information.
- During role-plays or in the clinical setting, demonstrate the use of open questions and clarification to acquire medical histories.

- During role-plays or in the clinical setting, demonstrate listening skills and reflections to respond to patient's point of view and/or emotional needs.
- During role-plays or in the clinical setting, demonstrate the importance of empathy when obtaining a health history.
- During role-plays or in the clinical setting, employ motivational interviewing techniques to elicit supplemental information from the patient, such as social determinants of health, belief systems, and social supports.

SECTION 1 • Introduction to Motivational Interviewing

Approaches to Fostering Behavioral Change in Patients

Motivational interviewing is a person-centered counseling approach that is shown to positively foster health behavior change related to drug addiction, tobacco cessation, exercise, weight reduction, diabetes management, medication adherence, and oral hygiene.[1–3] Hygienists often advise patients to change certain habits or behaviors in order to improve their health. Patients, however, often feel ambivalent about behavior change—that is, they have mixed feelings and attitudes toward behavior change.[4,5] For example, the hygienist may wish that a patient did not smoke, as smoking is a major risk factor for periodontal disease. The patient, on the other hand, might like to have a healthier mouth but really enjoys smoking—so he has mixed feelings about quitting (i.e., behavior change). The main purpose of motivational interviewing is to strengthen the individual's motivation for and commitment to healthy behavior change. Motivational interviewing is based on a philosophy or "spirit" that emphasizes the *partnership* between clinician and patient, communicating *acceptance* to the patient, and *evoking* the patient's experience and wisdom. Acceptance includes support for patient autonomy or accepting a patient's right to decide what is right for him or her.

In contrast, traditional approaches to behavior change may involve interactions in which the clinician might *direct*, *instruct*, *or try to persuade* the patient to make behavior change. In this traditional approach, the clinician provides information to the patient that the clinician considers important or persuasive (e.g., reasons why diabetes should be well-controlled for general and oral health) rather than listening to gain insight into the patient's perspective on the advantages and disadvantages of change. In these types of conversations, the clinician is typically in the role of the expert directing the patient who takes a passive or sometimes resistant role (e.g., giving reasons why it is hard to afford regular physician care or why the patient may not want to change his or her diet) leading to a poor working relationships and negative health outcomes.

Motivational Interviewing and Patient Assessment

While effective counseling for behavior change may seem unrelated to assessment, the opportunity to establish a partnership—a good working relationship—between the hygienist and patient first presents at the patient's initial visit to the clinic or dental practice. The initial visit in the dental setting often begins with a medical/dental history intake process that is controlled by the clinician. For example, the initial patient assessment usually begins with a battery of standardized checklist-type questions that are closed-ended and narrowly focused. The patient's role is diminished to passively providing short answers to questions whose importance is not necessarily clear to the patient.

Although motivational interviewing does not prescribe a particular method for patient assessment, its philosophy supports the methods for conducting assessments in a more patient-centered fashion. Using motivational interviewing communication strategies in advance of the structured assessment may allow the clinician to gather most of the necessary information and then ask a greatly diminished set of questions to complete the assessment. Additionally, motivational interviewing strategies provide an opportunity to respond in an empathetic manner to personally sensitive information. For example, a female patient may experience feelings of remorse when reporting her recent hospitalization for a miscarriage.

SECTION 2 • Motivational Interviewing Approach to Assessment

Interpersonal Communication Styles

One way of thinking about how the motivational interviewing approach to assessment might differ from a traditional approach is to consider the different communication styles available to clinicians. Dental hygienists manage their conversations with patients using different "styles." A clinician's professional style may be thought of as existing on a continuum (Fig. 4-1). The continuum presents a range of styles related to the degree of authority used by the clinician and to the amount of freedom available to the patient in the conversation.[6] On one extreme of the continuum is the **directing communication style**. In the directing style, the practitioner is "in charge" of the conversation, typically asking focused questions or providing instruction or giving advice. At the opposite end of the continuum is the **following communication style** in which listening to the patient predominates. A clinician with a following style has no agenda other than to understand the world through the patient's eyes. In the middle of the continuum is the **guiding communication style** in which the practitioner may gently direct the conversation but the direction is determined by listening to the patient. Figure 4-2 summarizes these three styles.

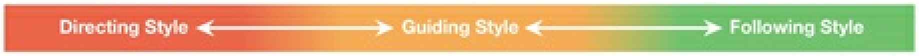
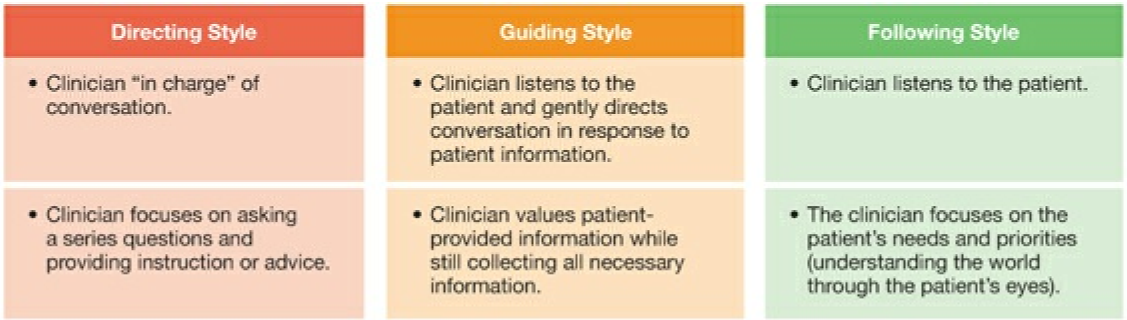


FIGURE 4-1 **A continuum of communication styles.** A communication style may vary from the extremes of directing to following styles or fall somewhere in the middle with the use of a guiding style.



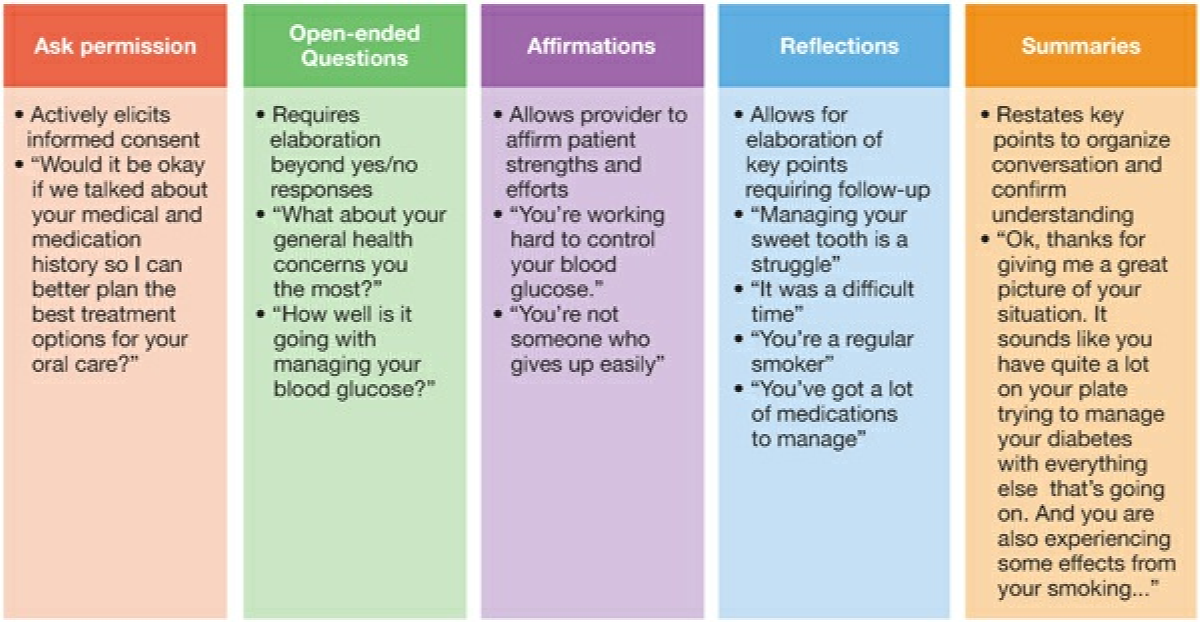
Directing Style	Guiding Style	Following Style
• Clinician "in charge" of conversation.	• Clinician listens to the patient and gently directs conversation in response to patient information.	• Clinician listens to the patient.
• Clinician focuses on asking a series questions and providing instruction or advice.	• Clinician values patient-provided information while still collecting all necessary information.	• The clinician focuses on the patient's needs and priorities (understanding the world through the patient's eyes).

FIGURE 4-2 **Communication styles.** Comparison of the directing, guiding, and following styles of conversation.

While all three communication styles may have their place, ***motivational interviewing is characterized most by the use of a guiding style***. When thinking about the continuum of styles, it is reasonable to assume that patient assessment procedures may call for more of a directing style because the clinician has to ensure that all critical information is collected. On the other hand, patients also have a lot to offer the assessment process through their unique knowledge, experience, and wisdom regarding their own lives. Patient-provided information is critical to patient care and management. With this in mind, ***the skilled motivational interviewing practitioner seeks to use the guiding style to capitalize on the expertise of the patient while still collecting all of the necessary information for a thorough patient assessment***.

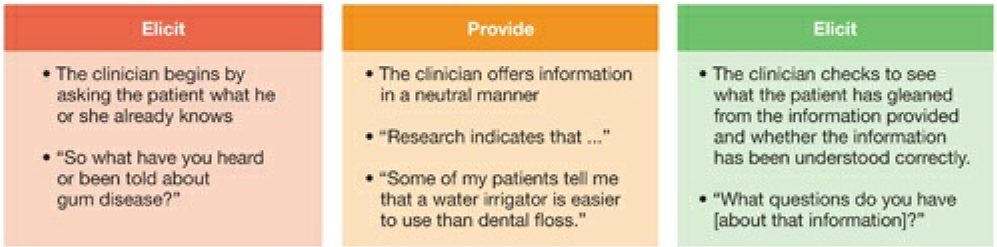
Core Motivational Interviewing Skills

Specific communication strategies are used in order to employ the motivational interviewing spirit and guiding style during patient assessment procedures. Five of these strategies include permission, open questions, affirmations, reflections, and summaries. Examples of these strategies are provided in Figure 4-3. An additional tool is the three-step process known as elicit–provide–elicit as explained in Figure 4-4.



Ask permission	Open-ended Questions	Affirmations	Reflections	Summaries
• Actively elicits informed consent • "Would it be okay if we talked about your medical and medication history so I can better plan the best treatment options for your oral care?"	• Requires elaboration beyond yes/no responses • "What about your general health concerns you the most?" • "How well is it going with managing your blood glucose?"	• Allows provider to affirm patient strengths and efforts • "You're working hard to control your blood glucose." • "You're not someone who gives up easily"	• Allows for elaboration of key points requiring follow-up • "Managing your sweet tooth is a struggle" • "It was a difficult time" • "You're a regular smoker" • "You've got a lot of medications to manage"	• Restates key points to organize conversation and confirm understanding • "Ok, thanks for giving me a great picture of your situation. It sounds like you have quite a lot on your plate trying to manage your diabetes with everything else that's going on. And you are also experiencing some effects from your smoking..."

FIGURE 4-3 **Communication skills for motivational interviewing.**



Elicit	Provide	Elicit
• The clinician begins by asking the patient what he or she already knows • "So what have you heard or been told about gum disease?"	• The clinician offers information in a neutral manner • "Research indicates that ..." • "Some of my patients tell me that a water irrigator is easier to use than dental floss."	• The clinician checks to see what the patient has gleaned from the information provided and whether the information has been understood correctly. • "What questions do you have [about that information]?"

FIGURE 4-4 **The elicit–provide–elicit model.** This model illustrates how the clinician can provide information without "pushing" the patient in a particular direction.

OPEN QUESTIONS

These are questions that cannot be answered with a simple "yes" or "no" or with an option from a limited set of responses (e.g., "How old are you?"). **Open questions** invite more detailed responses from the patient (e.g., "Tell me a little bit about your dental history."). Although technically not open questions, statements or directives such as "Tell me about what happened with that tooth" can also serve this function and are often used by motivational interviewing practitioners to encourage more detailed responses from patients.

AFFIRMATIONS

Affirmations are statements that support patients' strengths or efforts. These serve to strengthen the bond between clinician and patient and may encourage patients to be more forthcoming or have more confidence in their efforts to adhere to clinician recommendations.

REFLECTIONS

Reflections are statements in which the clinician paraphrases what the patient has said. These statements communicate to the patient what the clinician has actively listened and heard what the patient said. Reflective statements encourage patients to elaborate, keeping them as active partners in the discussion. In motivational interviewing, reflections are used in sophisticated ways for different purposes, but most importantly, they provide a valuable alternative to asking questions and can be used to skillfully *guide* conversations, as explained below.

SUMMARIES

Summaries are “elongated” reflections that also serve to highlight key points of the discussion and mark transition points in the conversation.

ASKING PERMISSION

Motivational interviewing practitioners use “asking permission” as a means to communicate the desire to partner with patients. **Asking permission** is the act of providing the patient with the right to decide if something will be allowed or permitted. For example, “Is it OK if we discuss your medications so that I can better plan your oral care?”

ELICIT–PROVIDE–ELICIT

When providing information or advice in motivational interviewing, the clinician goes to great lengths to ensure that the information or advice is not perceived as an unwelcome effort to direct or push the patient in a particular direction. The goal is always to support patient autonomy in decision making and foster a true partnership between clinician and patient. In motivational interviewing, this can be achieved with the three-step process, **elicit–provide–elicit**, as summarized in Figure 4-4.

Using the Tools

OPEN QUESTIONS AND REFLECTIVE LISTENING

From a motivational interviewing perspective, the best method for beginning the assessment process is to engage the patient in a guided conversation rather than with a battery of exhaustive questions. Sitting at the same level as the patient and making eye contact conveys the hygienist's compassion and interest in the patient's welfare (Fig. 4-5). The motivational interviewing practitioner usually begins with a single *open question* designed to get the patient to start sharing his or her perspective and then starts the process of listening to the patient perspective. For example, the practitioner might begin by asking, "What is the problem that has brought you in today?" and then respond with a *reflective statement* (e.g., "So, you're concerned that your gums are bleeding when you brush?"). This encourages the patient to elaborate and clarify his or her understanding of the problem. Motivational interviewing practitioners then intersperse open questions and reflections as needed to guide the conversation through an exploration of the patient's history and presenting problem.

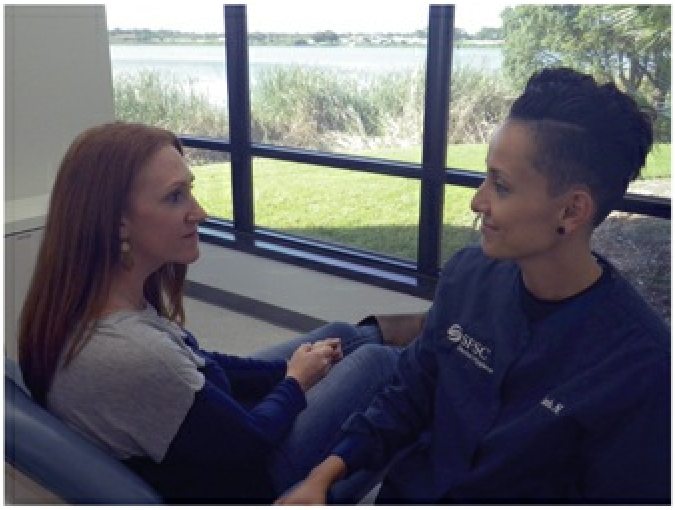


FIGURE 4-5 **Making eye contact.** The clinician sits down to listen to the patient during a motivational interviewing–based assessment process.

There are a number of clear advantages of the motivational interviewing approach.

- First, by allowing the patient an opportunity to explain the problem as he or she sees it, the clinician gains valuable insight as to how best to work with the particular patient. For example, the patient may highlight particular concerns or express misinformation that can guide the clinician's efforts to help. Patient-provided information is particularly important when trying to understand health care beliefs or priorities or culturally determined preferences.
- Second, patients may introduce unexpected important information that the clinician would not have thought to ask about.
- Third, patient elaboration can often help to focus assessment more efficiently. For example, the clinician might be able to begin the assessment process by focusing on aspects that patient has highlighted as most important to him or her, thus, letting the patient know that his or her concerns are important and will be addressed as early in the assessment process as possible. Similarly, the clinician may be able to narrow the focus of questioning and listening to expand on patient-provided information.

STRATEGIC USE OF REFLECTIONS

Reflective listening is an ideal way to express empathy and encourage the patient to be an active partner in the conversation. One concern clinicians have is that emphasizing reflections might lead to a predominance of *following* (i.e., just listening to the patient) which may not be suitable for conducting an assessment. In motivational interviewing, however, reflections are used to guide the conversation in different ways:

1. **Elaboration.** By choosing whether or not to reflect what the patient says, the clinician can encourage or dissuade the patient from elaborating on a topic.
   - If the clinician does not wish to know more about a particular topic, he or she may choose not to make reflective statements.
   - Most often, the clinician will choose to reflect to encourage the patient to elaborate and clarify information. This generally works best when reflections are brief and focused on the part of the patient's statement

that the practitioner wishes to hear more about.

- When clinicians make reflections, they also verify that their understanding of the patient perspective is correct. If the clinician's reflection is off target, the patient usually will respond with a clarification that allows the clinician to correct his or her misperception.
- Reflections allow the clinician to gather information for assessment purposes while simultaneously developing accurate empathy and validating patients.

2. **Directing and Redirecting.** Although reflections are primarily a tool of listening (or following), they also allow the skilled clinician to guide the conversation. When clinicians make reflections about what a patient has said, there are typically choices about what to reflect. The patient will be prompted to elaborate on whatever the clinician reflects. Table 4-1 provides examples how a clinician might use reflection.

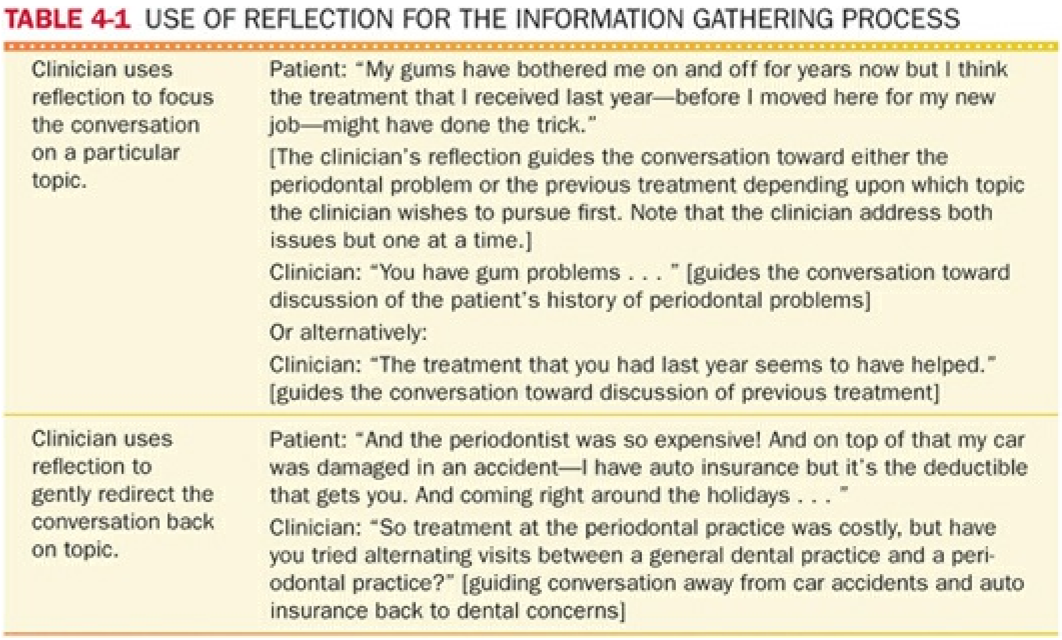


TABLE 4-1 USE OF REFLECTION FOR THE INFORMATION GATHERING PROCESS

Clinician uses reflection to focus the conversation on a particular topic.	Patient: "My gums have bothered me on and off for years now but I think the treatment that I received last year—before I moved here for my new job—might have done the trick." [The clinician's reflection guides the conversation toward either the periodontal problem or the previous treatment depending upon which topic the clinician wishes to pursue first. Note that the clinician address both issues but one at a time.] Clinician: "You have gum problems . . . " [guides the conversation toward discussion of the patient's history of periodontal problems] Or alternatively: Clinician: "The treatment that you had last year seems to have helped." [guides the conversation toward discussion of previous treatment]
Clinician uses reflection to gently redirect the conversation back on topic.	Patient: "And the periodontist was so expensive! And on top of that my car was damaged in an accident—I have auto insurance but it's the deductible that gets you. And coming right around the holidays . . . " Clinician: "So treatment at the periodontal practice was costly, but have you tried alternating visits between a general dental practice and a periodontal practice?" [guiding conversation away from car accidents and auto insurance back to dental concerns]

SHARING INFORMATION AND ASKING PERMISSION

At times during the assessment process, the clinician may want to provide information that seems pertinent to convey to the patient. To avoid being perceived as "pushing" the patient toward a certain decision, the clinician can *ask permission* (e.g., “May I share some information about diabetes and oral health that you might find interesting?”) and use the steps of *elicit–provide–elicit*.

- It should be noted that when a patient requests information, the clinician should provide that information.
- The goal of asking permission and elicit–provide–elicit is to ensure advice supports patient autonomy and is perceived as welcome. It is human nature to be more accepting of those ideas or reasons we offer than to accept those offered by others.
- For example, the hygienist might ask the patient what he already knows or is interested in knowing about general or oral health (“What, if any, concerns do you have about your general health?”). Use of a simple inquiry shows respect for the patient’s knowledge and avoids telling him something he already knows. The hygienist can then follow up on only the information not yet covered after the patient tells what he already knows or is most interested in knowing more about.

SUMMARIZING

Summarizing can be used to organize the assessment conversation.

- When a particular area of assessment has been covered, the clinician may summarize the key points and then open up the conversation in a new direction (e.g., “OK, I think I understand the history here. In a nutshell it began with . . . and now you have come to me. So now I’d like to learn a little more about your daily self-care habits at home. Could you fill me in on what you have been doing to try to take care of your gums?”).
- These brief summaries help to communicate where the conversation has been and where it is going.
- Summarizing can also be used to wrap up an area of conversation. Unlike reflections, summarizing does not typically invite elaboration, although this technique still communicates empathy.

AFFIRMATIONS

Affirmations can be used at any point during the assessment process.

- In motivational interviewing, the clinician actively seeks opportunities to affirm patient strengths or efforts throughout the encounter.
- For example, a clinician who learns a patient is trying to improve his or her daily self-care habits might say, “So you have really made it your goal to floss regularly.”
- An affirmation can also be as simple as thanking the patient for participating in the assessment process (e.g., “Thank you for answering all my questions and sharing your experiences with me.”).

Potential Concerns of Using Motivational Interviewing for Patient Assessment

Clinicians are often concerned assessment will be slow and inefficient if the patient is encouraged to speak more freely and the encounter is not conducted through a series of focused questions. While this is a possibility, assessments often are more efficiently conducted when a patient-centered conversation is used. As noted, patients bring a wealth of knowledge about their lives that guides them in prioritizing their concerns for discussions with their practitioner.

- Frequently, the hygienist can quickly gather the most salient information by listening to the patient rather than completing an exhaustive list of questions.[2,7]
- Skilled clinicians also use the tools of motivational interviewing to influence the extent of patient elaboration and the duration of the conversation. It is often efficient and effective to engage in a free-flowing conversation with the patient (that may include occasional probing questions as appropriate) and then using focused questions toward the end of the assessment to gather essential missing information.

Benefits of Using Motivational Interviewing for Patient

Assessment

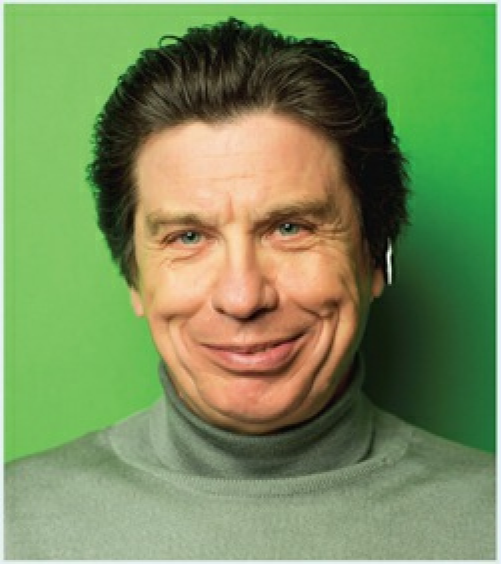
As with any method, clinicians will need to determine how motivational interviewing tools may be used to enhance assessment so that it is efficient, effective, and engaging to patients. Using motivational interviewing methods to make assessment more patient-centered is likely to yield dividends for patients and clinicians alike.

SECTION 3 • The Human Element

Sample Communication Scenario

The communication scenario below presents a brief excerpt of dialogue from a clinician conducting a motivational interviewing–based assessment with a patient. The motivational interviewing strategies are identified in bold text.

MOTIVATIONAL INTERVIEWING–BASED ASSESSMENT CONVERSATION



Mr. Roberts is a 59-year-old construction foreman visiting the dental practice for the first time. His medical history is unknown and provides a good opportunity to conduct a directed, patient-centered medical history.

Hygienist (H): Hi Mr. Roberts, what brings you in today? (**open question**)	Patient (P): It's been a while since I've been to the dentist. And, now my company offers dental insurance, so I scheduled a checkup. I think I am overdue to have things checked.
H: You want to make sure your mouth is in good shape (**reflection**).	P: Yes. I think I have a fair amount of tartar build up so you might have your work cut out for you!
H: Anything else? (**open question**)	P: I do have this rough spot up here. I think I might have lost part of my filling.
H: So your concerns are that you might have lost a filling and that you have a lot of tartar build up. Have I got that right? (**summary**)	P: Yes.
H: I am really glad you came in today (**affirmation**). Sounds like there are some very specific oral conditions we can help you with. Before we jump into fixing your teeth, would it be alright if we reviewed your general health to determine the best means of treating your current conditions? (**ask permission**)	P: Sure, that's fine with me.
H: So you mentioned you were here today for a dental checkup, tell me about your last visit	P: That visit didn't go so well. I collapsed at work

to a physician? (**open question**)	and had to be taken to the emergency room.
H: That’s scary (**reflection**). How did it turn out? (**open question**)	P: I had double pneumonia which I am susceptible to due to my asthma. They also determined I have type 2 diabetes.
H: What did you make of all of that? (**open question**)	P: [Sighing] They gave me a whole list of foods I can and cannot eat and told me to lose weight.
H: Sounds like you are not sure if this is something you need to do? (**reflection**)	P: I am taking the medicine they gave me but I have not changed anything else.
H: What medications do you take? (**open question**)	P: Glyburide/metformin 2.5 mg/500 mg twice a day. Advair 250/100 two puffs twice daily morning and night. Albuterol as needed.
H: So, glyburide/metformin 2.5 mg/500 mg twice a day for the diabetes. And Advair 250/100 two puffs twice daily morning and night and Albuterol as needed for asthma. Is that correct? (**summary**)	P: Yes, that’s right.
H: So you are taking your medications and you have been able to go back to work. (**reflection**)	P: I am back to work but they tell me my blood sugar is too high.

H: Tell me more about that. (**open question**)	P: They do a special blood test and I am supposed to try to get below a 6. Last time I was at an 8.
H: Sounds like your blood glucose level is elevated (**reflection**). Do you have any concerns about that? (**open question**)	P: Well I certainly do not want to go through another emergency like the one I had recently.
H: You're worried about getting sick again. (**reflection**) What do you know about diabetes and your oral health? (**open question**)	P: I don't see what diabetes has to do with my teeth.
H: Actually, diabetes and oral health are related. Let's finish this medical history and I will tell you more about it. To make sure that we don't miss anything, I am going to use a checklist of other conditions and you let me know if you have or have had any of these in the past. (**redirect**)	P: Sounds good.

SECTION 4 • **Skill Check**

Skill Checklist: Communications Role-Play

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as

S (satisfactory) or **U** (unsatisfactory).
DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	**S**	**E**
Uses appropriate nonverbal behavior such as maintaining eye contact, sitting at the same level as the patient, nodding head when listening to patient, etc.		
Interacts with the patient as a peer and avoids a condescending approach. Collaborates with the patient and provides advice.		
Communicates using common, everyday words. Avoids dental terminology.		
Listens attentively to the patient's comments. Respects the patient's point of view.		
Listens attentively to the patient's questions. Encourages patient questions. Clarifies for understanding, when necessary.		
Answers the patient's questions fully and accurately.		
Checks for understanding by the patient. Clarifies information.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s		

and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios for the modules in this textbook can be found at http://thepoint.lww.com/GehrigPAT4e.

References

1. Miller WR, Rollnick S. *Motivational Interviewing: Helping People Change*. 3rd ed. New York, NY: Guilford Press; 2012.
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Suggested Readings

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PART 2

Assessment Skills

MODULE
5

MEDICAL HISTORY

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

The medical history is a critical step in the care of every dental patient. The medical history provides important information related to the patient's physical and psychological condition. The information gathered during the medical history is ultimately used when determining how a patient's systemic health may be impacted by the planned dental care. This information allows the clinician to determine whether dental treatment alterations are necessary for the patient to safely undergo each specific dental procedure.

In addition, a thorough understanding of the implications of the findings from the medical history is a critical component in interprofessional collaboration. One of the key foundations of the concept of interprofessional practice is for all health care providers to share a common vocabulary and common understanding of caring for the patient as a whole. A thorough health history is the first step for a dental hygienist or dentist to participate in collaborating with other health care providers about the overall welfare of a patient.

This module covers taking and interpreting the medical history, including:

- Gathering information regarding a patient’s medical conditions and diseases
- Gathering information regarding a patient’s medications and supplements
- Informed consent and the medical history
- Determining how a patient’s medical conditions and/or medications impact dental care

MODULE OUTLINE

SECTION 1 **The Health History**
Caring for Patients in a Multicultural Society
Multi-Language Health History Project
Obtaining and Using the University of the Pacific Multi-Language Forms

SECTION 2 **The Medical History Assessment**
Relationship between Systemic and Oral Health
Dental Practices as Health Screening Sites
Risk Assessment: Physical Status
Interprofessional Collaboration
Consultation with a Physician

SECTION 3 **Informed Consent and the Medical History**

SECTION 4 **Conducting a Medical History Assessment**
Information Gathering
Medical Alert Box
Stress Reduction Protocol for Anxious Patients

SECTION 5 **Peak Procedure**
Procedure 5-1. Review of Written Questionnaire and Patient Interview

SECTION 6 **The Human Element**

Through the Eyes of Clinicians and Patients
Ethical Dilemma
English-to-Spanish Phrase Lists

SECTION 7 **Practical Focus—Fictitious Patient Cases**

SECTION 8 **Skill Check**

KEY TERMS

Multi-Language Health History Project • **Medical risk** • **Interprofessional collaborative practice** • **Medical consult** • **Informed consent** • **Capacity for consent** • **Informed refusal** • **Information-gathering phase** • **Medical alert box**

OBJECTIVES

- Recognize the manifestations of systemic disease and how the disease and its management may affect the delivery of dental care. Demonstrate skills in conducting online research on medical conditions/diseases and medications.
- Demonstrate the use of communication strategies and questioning techniques that facilitate complete, accurate information gathering.
- Recognize the need for conducting risk assessments on dental patients.
- Communicate effectively with individuals from diverse populations.
- Discuss the ways in which a hygienist's choice of words can facilitate or hinder communication with patients regarding patient assessment procedures.
- Apply principles of risk management, including informed consent and appropriate record keeping in patient care.
- Demonstrate skills necessary to obtain a complete and thorough medical history.
- Describe the types of information that should be entered in the medical alert box on the medical history form.

- Participate with dental team members and other health care professionals in the management and health promotion for all patients.
- Practice within one’s scope of competence and consult with or refer to professional colleagues when indicated.
- Describe contraindications and complications for dental care presented by various medical conditions/diseases and medications.
- Identify findings that have implications in planning dental treatment.
- Provide appropriate referral to a physician or dental specialist when findings indicate the need for further evaluation.
- Demonstrate the ability to apply information learned in the classroom and clinical activities to the fictitious patient cases A to E in this module, including reviewing completed health history forms, conducting research, formulating follow-up questions, conducting a patient interview, and determining the medical risk of dental treatment to the patient.

SECTION 1 • The Health History

A health history form is used to gather subjective data about the patient and explore past and present problems. Health history forms assist patients in providing an account of their health history.

- Health history forms are available in many different formats and lengths.
- Many health history forms include a list of diseases and medical conditions that aid patients in recalling their medical history.
- Most forms ask the patient to check a box or circle “yes” or “no” for each question or item on the form. Some health history forms have space that allows patients to provide additional information in response to questions and to list their medications.
- Regardless of the format or length, the health history form should provide the health care professional with complete information regarding the past and present health of each patient.

Caring for Patients in a Multicultural Society

The United States and Canada are multicultural societies where many residents report being born in a foreign country. This diversity in ethnicity, culture, and language enriches these countries, but it also complicates efforts to provide safe dental care.

- For many dental health care providers in the United States and Canada, assessing a patient’s history involves finding a way to communicate with patients who speak another language.
- Ideally, an interpreter who is specially trained to conduct translations involving medical and dental terminology, conditions, and procedures would be a member of every dental staff. However, employing a trained medical/dental interpreter who is fluent in many different languages is an unrealistic option for most dental offices and clinics.
- Using a health history form that has been translated into different languages is a more practical solution to the problem of obtaining history information from non-English-speaking patients.

Multi-Language Health History Project

The **Multi-Language Health History Project** began as an initiative of the University of the Pacific (UOP) Arthur A. Dugoni School of Dentistry to address the needs of patients and dental health care providers who do not speak the same language. With the assistance of the California Dental Association and MetLife Inc., the history form has been translated into over 25 different languages. Transcend, a California company specializing in translations services certifies that the translations are correct.

Obtaining and Using the University of the Pacific Multi-Language Forms

- Directions for downloading copies of the UOP multi-language health history forms are found in Box 5-1.

BOX
5-1

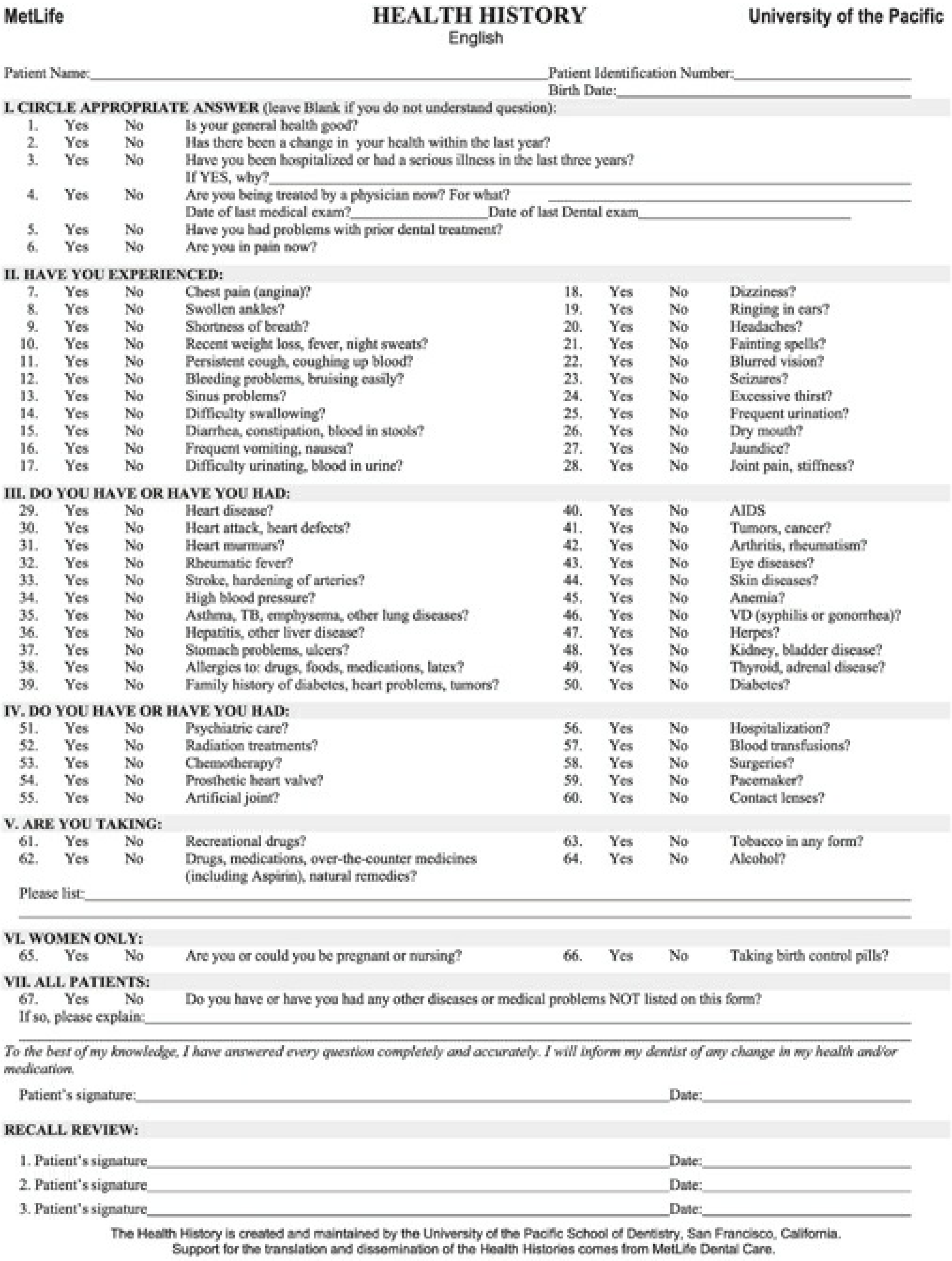
Instructions for Downloading the University of the Pacific Multi-Language Forms

The multi-language health history forms can be downloaded at no cost on the Internet.

1. Connect a computer to the Internet and open an Internet browser.
2. On an Internet browser, enter the website address in the rectangular box near the top of the browser:
    - http://oralfitnesslibrary.com/Multi-Language-Health-History-Forms
    - Click on "GO" or hit the "return key" on the keyboard. The selected web page should open.

NOTE: A software application—**Adobe Acrobat Reader**—is needed to open and view a pdf document and can be downloaded at http://get.adobe.com/reader.

- The English version of the UOP health history form was translated into over 25 different languages, keeping the same question numbering sequence. Using a translated form, a dental health care provider who speaks English and is caring for a patient who doesn't can ask the patient to complete the health history in his or her own language.
- The clinician then compares the English health history to the patient's translated health history, scanning the translated version for "yes" responses. When a "yes" is found, the dental health care provider is able to look at the question number and match it to the question number on the English version. For example, question 34 on the Japanese version is the same as question 34 on the English version and relates to high blood pressure.
- In the same manner, a dental health care provider who speaks Spanish could use the multi-language health history form with a patient who speaks French. A few examples of the UOP health history form are shown in Figures 5-1 to 5-4.



MetLife **HEALTH HISTORY** **University of the Pacific**
English

Patient Name:______________________________ Patient Identification Number:____________
Birth Date:____________

I. CIRCLE APPROPRIATE ANSWER (leave Blank if you do not understand question):

1.	Yes	No	Is your general health good?
2.	Yes	No	Has there been a change in your health within the last year?
3.	Yes	No	Have you been hospitalized or had a serious illness in the last three years? If YES, why?__________
4.	Yes	No	Are you being treated by a physician now? For what? __________ Date of last medical exam?__________ Date of last Dental exam__________
5.	Yes	No	Have you had problems with prior dental treatment?
6.	Yes	No	Are you in pain now?

II. HAVE YOU EXPERIENCED:

7.	Yes	No	Chest pain (angina)?	18.	Yes	No	Dizziness?
8.	Yes	No	Swollen ankles?	19.	Yes	No	Ringing in ears?
9.	Yes	No	Shortness of breath?	20.	Yes	No	Headaches?
10.	Yes	No	Recent weight loss, fever, night sweats?	21.	Yes	No	Fainting spells?
11.	Yes	No	Persistent cough, coughing up blood?	22.	Yes	No	Blurred vision?
12.	Yes	No	Bleeding problems, bruising easily?	23.	Yes	No	Seizures?
13.	Yes	No	Sinus problems?	24.	Yes	No	Excessive thirst?
14.	Yes	No	Difficulty swallowing?	25.	Yes	No	Frequent urination?
15.	Yes	No	Diarrhea, constipation, blood in stools?	26.	Yes	No	Dry mouth?
16.	Yes	No	Frequent vomiting, nausea?	27.	Yes	No	Jaundice?
17.	Yes	No	Difficulty urinating, blood in urine?	28.	Yes	No	Joint pain, stiffness?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes	No	Heart disease?	40.	Yes	No	AIDS
30.	Yes	No	Heart attack, heart defects?	41.	Yes	No	Tumors, cancer?
31.	Yes	No	Heart murmurs?	42.	Yes	No	Arthritis, rheumatism?
32.	Yes	No	Rheumatic fever?	43.	Yes	No	Eye diseases?
33.	Yes	No	Stroke, hardening of arteries?	44.	Yes	No	Skin diseases?
34.	Yes	No	High blood pressure?	45.	Yes	No	Anemia?
35.	Yes	No	Asthma, TB, emphysema, other lung diseases?	46.	Yes	No	VD (syphilis or gonorrhea)?
36.	Yes	No	Hepatitis, other liver disease?	47.	Yes	No	Herpes?
37.	Yes	No	Stomach problems, ulcers?	48.	Yes	No	Kidney, bladder disease?
38.	Yes	No	Allergies to: drugs, foods, medications, latex?	49.	Yes	No	Thyroid, adrenal disease?
39.	Yes	No	Family history of diabetes, heart problems, tumors?	50.	Yes	No	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes	No	Psychiatric care?	56.	Yes	No	Hospitalization?
52.	Yes	No	Radiation treatments?	57.	Yes	No	Blood transfusions?
53.	Yes	No	Chemotherapy?	58.	Yes	No	Surgeries?
54.	Yes	No	Prosthetic heart valve?	59.	Yes	No	Pacemaker?
55.	Yes	No	Artificial joint?	60.	Yes	No	Contact lenses?

V. ARE YOU TAKING:

61.	Yes	No	Recreational drugs?	63.	Yes	No	Tobacco in any form?
62.	Yes	No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes	No	Alcohol?

Please list:______________________________

VI. WOMEN ONLY:

65.	Yes	No	Are you or could you be pregnant or nursing?	66.	Yes	No	Taking birth control pills?

VII. ALL PATIENTS:

67. Yes No Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain:______________________________

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

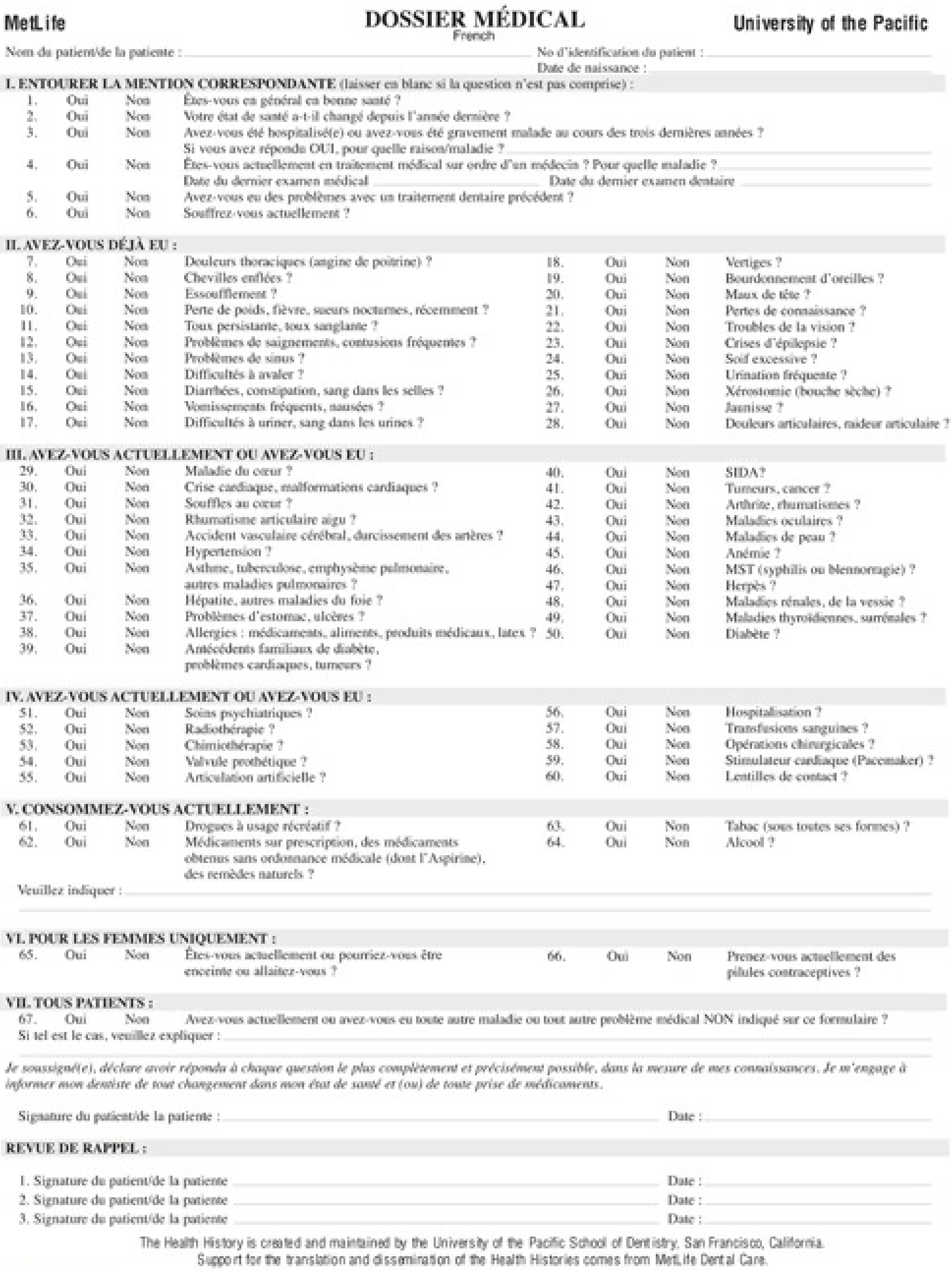
Patient's signature:______________________________ Date:____________

RECALL REVIEW:

1. Patient's signature______________________________ Date:____________
2. Patient's signature______________________________ Date:____________
3. Patient's signature______________________________ Date:____________

The Health History is created and maintained by the University of the Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-1 History form in English. Shown here is the University of the Pacific Arthur A. Dugoni School of Dentistry's health history form in English.



MetLife **DOSSIER MÉDICAL** French **University of the Pacific**

Nom du patient/de la patiente : ______ No d'identification du patient : ______
Date de naissance : ______

I. ENTOURER LA MENTION CORRESPONDANTE (laisser en blanc si la question n'est pas comprise) :

1.	Oui	Non	Êtes-vous en général en bonne santé ?
2.	Oui	Non	Votre état de santé a-t-il changé depuis l'année dernière ?
3.	Oui	Non	Avez-vous été hospitalisé(e) ou avez-vous été gravement malade au cours des trois dernières années ? Si vous avez répondu OUI, pour quelle raison/maladie ? ______
4.	Oui	Non	Êtes-vous actuellement en traitement médical sur ordre d'un médecin ? Pour quelle maladie ? ______ Date du dernier examen médical ______ Date du dernier examen dentaire ______
5.	Oui	Non	Avez-vous eu des problèmes avec un traitement dentaire précédent ?
6.	Oui	Non	Souffrez-vous actuellement ?

II. AVEZ-VOUS DÉJÀ EU :

7.	Oui	Non	Douleurs thoraciques (angine de poitrine) ?	18.	Oui	Non	Vertiges ?
8.	Oui	Non	Chevilles enflées ?	19.	Oui	Non	Bourdonnement d'oreilles ?
9.	Oui	Non	Essoufflement ?	20.	Oui	Non	Maux de tête ?
10.	Oui	Non	Perte de poids, fièvre, sueurs nocturnes, récemment ?	21.	Oui	Non	Pertes de connaissance ?
11.	Oui	Non	Toux persistante, toux sanglante ?	22.	Oui	Non	Troubles de la vision ?
12.	Oui	Non	Problèmes de saignements, contusions fréquentes ?	23.	Oui	Non	Crises d'épilepsie ?
13.	Oui	Non	Problèmes de sinus ?	24.	Oui	Non	Soif excessive ?
14.	Oui	Non	Difficultés à avaler ?	25.	Oui	Non	Urination fréquente ?
15.	Oui	Non	Diarrhées, constipation, sang dans les selles ?	26.	Oui	Non	Xérostomie (bouche sèche) ?
16.	Oui	Non	Vomissements fréquents, nausées ?	27.	Oui	Non	Jaunisse ?
17.	Oui	Non	Difficultés à uriner, sang dans les urines ?	28.	Oui	Non	Douleurs articulaires, raideur articulaire ?

III. AVEZ-VOUS ACTUELLEMENT OU AVEZ-VOUS EU :

29.	Oui	Non	Maladie du cœur ?	40.	Oui	Non	SIDA?
30.	Oui	Non	Crise cardiaque, malformations cardiaques ?	41.	Oui	Non	Tumeurs, cancer ?
31.	Oui	Non	Souffles au cœur ?	42.	Oui	Non	Arthrite, rhumatismes ?
32.	Oui	Non	Rhumatisme articulaire aigu ?	43.	Oui	Non	Maladies oculaires ?
33.	Oui	Non	Accident vasculaire cérébral, durcissement des artères ?	44.	Oui	Non	Maladies de peau ?
34.	Oui	Non	Hypertension ?	45.	Oui	Non	Anémie ?
35.	Oui	Non	Asthme, tuberculose, emphysème pulmonaire, autres maladies pulmonaires ?	46.	Oui	Non	MST (syphilis ou blennorragie) ?
				47.	Oui	Non	Herpès ?
36.	Oui	Non	Hépatite, autres maladies du foie ?	48.	Oui	Non	Maladies rénales, de la vessie ?
37.	Oui	Non	Problèmes d'estomac, ulcères ?	49.	Oui	Non	Maladies thyroïdiennes, surrénales ?
38.	Oui	Non	Allergies : médicaments, aliments, produits médicaux, latex ?	50.	Oui	Non	Diabète ?
39.	Oui	Non	Antécédents familiaux de diabète, problèmes cardiaques, tumeurs ?				

IV. AVEZ-VOUS ACTUELLEMENT OU AVEZ-VOUS EU :

51.	Oui	Non	Soins psychiatriques ?	56.	Oui	Non	Hospitalisation ?
52.	Oui	Non	Radiothérapie ?	57.	Oui	Non	Transfusions sanguines ?
53.	Oui	Non	Chimiothérapie ?	58.	Oui	Non	Opérations chirurgicales ?
54.	Oui	Non	Valvule prothétique ?	59.	Oui	Non	Stimulateur cardiaque (Pacemaker) ?
55.	Oui	Non	Articulation artificielle ?	60.	Oui	Non	Lentilles de contact ?

V. CONSOMMEZ-VOUS ACTUELLEMENT :

61.	Oui	Non	Drogues à usage récréatif ?	63.	Oui	Non	Tabac (sous toutes ses formes) ?
62.	Oui	Non	Médicaments sur prescription, des médicaments obtenus sans ordonnance médicale (dont l'Aspirine), des remèdes naturels ?	64.	Oui	Non	Alcool ?

Veuillez indiquer : ______

VI. POUR LES FEMMES UNIQUEMENT :

65.	Oui	Non	Êtes-vous actuellement ou pourriez-vous être enceinte ou allaitez-vous ?	66.	Oui	Non	Prenez-vous actuellement des pilules contraceptives ?

VII. TOUS PATIENTS :

67. Oui Non Avez-vous actuellement ou avez-vous eu toute autre maladie ou tout autre problème médical NON indiqué sur ce formulaire ?
Si tel est le cas, veuillez expliquer : ______

Je soussigné(e), déclare avoir répondu à chaque question le plus complètement et précisément possible, dans la mesure de mes connaissances. Je m'engage à informer mon dentiste de tout changement dans mon état de santé et (ou) de toute prise de médicaments.

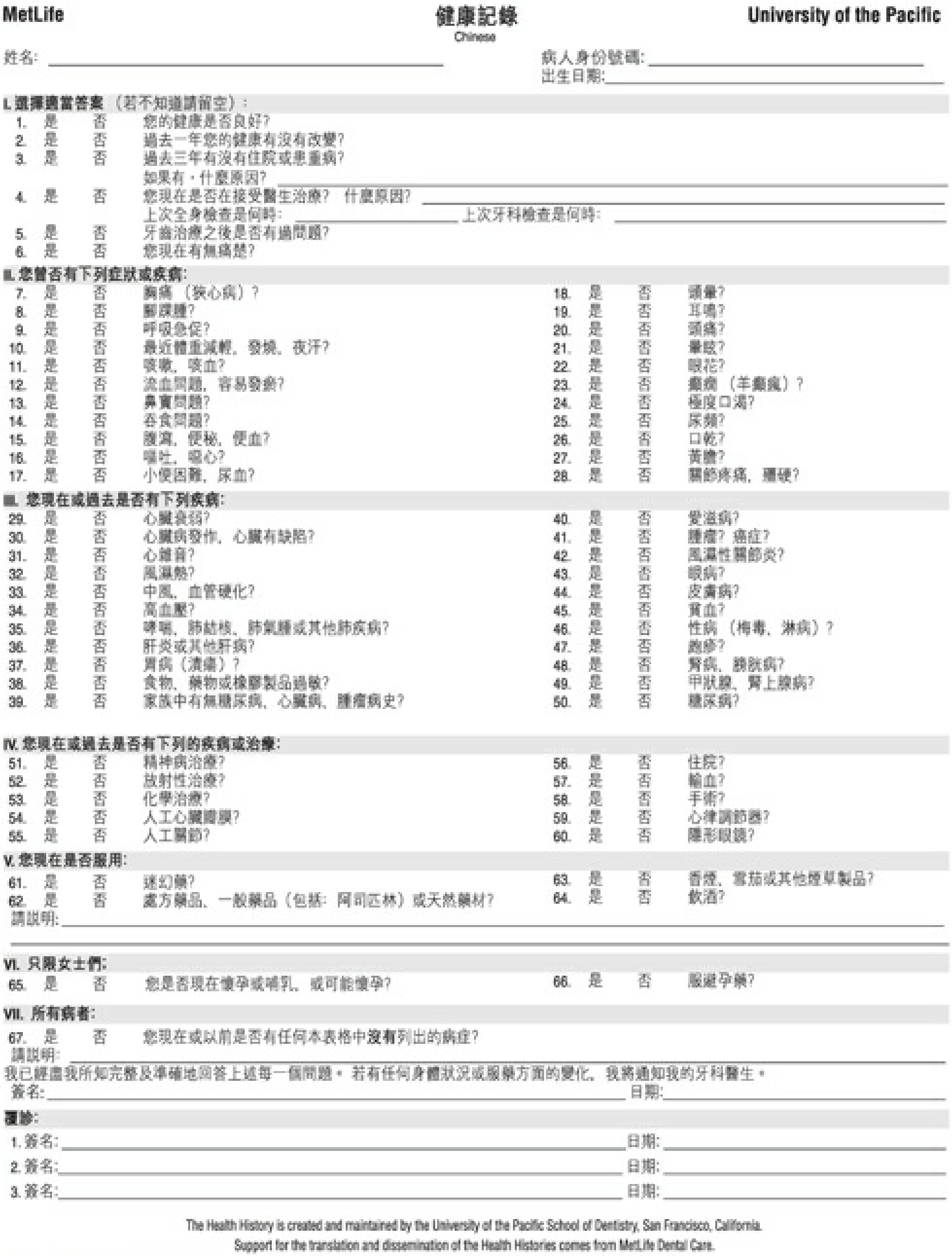
Signature du patient/de la patiente : ______ Date : ______

REVUE DE RAPPEL :

1. Signature du patient/de la patiente ______ Date : ______
2. Signature du patient/de la patiente ______ Date : ______
3. Signature du patient/de la patiente ______ Date : ______

The Health History is created and maintained by the University of the Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-2 **History form in French.** Shown here is the University of the Pacific Arthur A. Dugoni School of Dentistry's health history form in French. The University of the Pacific health history form in English was translated, keeping the same question numbering sequence so that a clinician can compare the English health history to the patient's translated health history.



MetLife **健康記錄** **University of the Pacific**

Chinese

姓名: ______ 病人身份號碼: ______
出生日期: ______

I. 選擇適當答案（若不知道請留空）:

1. 是 否 您的健康是否良好?
2. 是 否 過去一年您的健康有沒有改變?
3. 是 否 過去三年有沒有住院或患重病?
如果有，什麼原因? ______
4. 是 否 您現在是否在接受醫生治療? 什麼原因? ______
上次全身檢查是何時: ______ 上次牙科檢查是何時: ______
5. 是 否 牙齒治療之後是否有過問題?
6. 是 否 您現在有無痛楚?

II. 您曾否有下列症狀或疾病:

7. 是 否 胸痛（狹心病）?
8. 是 否 腳踝腫?
9. 是 否 呼吸急促?
10. 是 否 最近體重減輕、發燒、夜汗?
11. 是 否 咳嗽、咳血?
12. 是 否 流血問題，容易發瘀?
13. 是 否 鼻竇問題?
14. 是 否 吞食問題?
15. 是 否 腹瀉、便秘、便血?
16. 是 否 嘔吐、噁心?
17. 是 否 小便困難，尿血?
18. 是 否 頭暈?
19. 是 否 耳鳴?
20. 是 否 頭痛?
21. 是 否 暈眩?
22. 是 否 眼花?
23. 是 否 癲癇（羊癲瘋）?
24. 是 否 極度口渴?
25. 是 否 尿頻?
26. 是 否 口乾?
27. 是 否 黃膽?
28. 是 否 關節疼痛、僵硬?

III. 您現在或過去是否有下列疾病:

29. 是 否 心臟衰弱?
30. 是 否 心臟病發作、心臟有缺陷?
31. 是 否 心雜音?
32. 是 否 風濕熱?
33. 是 否 中風、血管硬化?
34. 是 否 高血壓?
35. 是 否 哮喘、肺結核、肺氣腫或其他肺疾病?
36. 是 否 肝炎或其他肝病?
37. 是 否 胃病（潰瘍）?
38. 是 否 食物、藥物或橡膠製品過敏?
39. 是 否 家族中有無糖尿病、心臟病、腫瘤病史?
40. 是 否 愛滋病?
41. 是 否 腫瘤? 癌症?
42. 是 否 風濕性關節炎?
43. 是 否 眼病?
44. 是 否 皮膚病?
45. 是 否 貧血?
46. 是 否 性病（梅毒、淋病）?
47. 是 否 皰疹?
48. 是 否 腎病、膀胱病?
49. 是 否 甲狀腺、腎上腺病?
50. 是 否 糖尿病?

IV. 您現在或過去是否有下列的疾病或治療:

51. 是 否 精神病治療?
52. 是 否 放射性治療?
53. 是 否 化學治療?
54. 是 否 人工心臟瓣膜?
55. 是 否 人工關節?
56. 是 否 住院?
57. 是 否 輸血?
58. 是 否 手術?
59. 是 否 心律調節器?
60. 是 否 隱形眼鏡?

V. 您現在是否服用:

61. 是 否 迷幻藥?
62. 是 否 處方藥品、一般藥品（包括: 阿司匹林）或天然藥材?
63. 是 否 香煙、雪茄或其他煙草製品?
64. 是 否 飲酒?

請說明: ______

VI. 只限女士們:

65. 是 否 您是否現在懷孕或哺乳、或可能懷孕?
66. 是 否 服避孕藥?

VII. 所有病者:

67. 是 否 您現在或以前是否有任何本表格中**沒有**列出的病症?

請說明: ______

我已經盡我所知完整及準確地回答上述每一個問題。若有任何身體狀況或服藥方面的變化，我將通知我的牙科醫生。

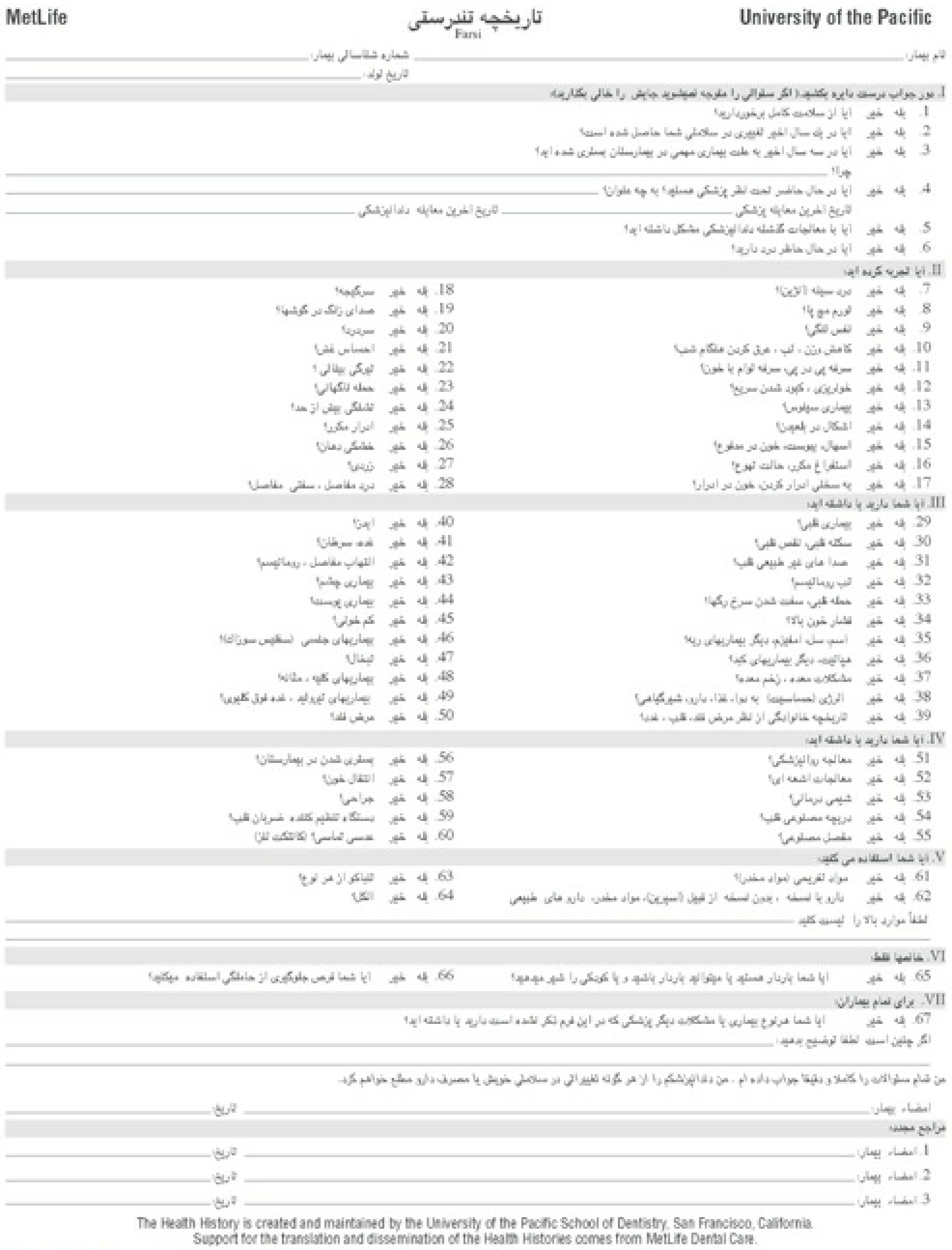
簽名: ______ 日期: ______

覆診:

1. 簽名: ______ 日期: ______
2. 簽名: ______ 日期: ______
3. 簽名: ______ 日期: ______

The Health History is created and maintained by the University of the Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-3 History form in Chinese. Shown here is the University of the Pacific Arthur A. Dugoni School of Dentistry's health history form in Chinese. The University of the Pacific health history form in English was translated, keeping the same question numbering sequence so that a clinician can compare the English health history to the patient's translated health history.



MetLife

تاریخچه تندرستی

Farsi

University of the Pacific

The Health History is created and maintained by the University of the Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-4 **History form in Farsi.** Shown here is the University of the Pacific Arthur A. Dugoni School of Dentistry's health history form in Farsi. The University of the Pacific health history form in English was translated, keeping the same question numbering sequence so that a clinician can compare the English health history to the patient's translated health history.

- The UOP multi-language health history form is used in each of the fictitious patient activities that appear at the end of this module.

Relationship between Systemic and Oral Health

There are many reasons for conducting a thorough assessment of the patient's past and current health status. The most important reason is to protect the health of the patient. There is a strong two-way relationship between systemic health and oral conditions.

- Systemic diseases and conditions may have oral implications. For example, patients with poorly controlled diabetes do not respond well to periodontal therapy.
- Medications used to treat systemic diseases and conditions can produce changes in oral health. For example, certain medications can result in gingival hyperplasia (overgrowth of the gingiva).
- Systemic conditions, diseases, or medications may necessitate precautions to ensure that planned dental treatment will not be harmful to the patient's systemic health. For example, a patient who has a history of well-controlled congestive heart failure may need certain treatment modifications such as short appointments and supplemental oxygen by nasal cannula.
- Oral manifestations may identify conditions that should be evaluated by a primary care physician. For example, periodontal disease that does not respond to treatment may be an indication of uncontrolled diabetes because this condition increases susceptibility to infection and results in slower healing rates.
- Substances, materials, or drugs used in dental treatment may produce an adverse reaction in certain patients. For example, a patient with allergies may be allergic to latex.

Dental hygienists are preventive specialists and as such are responsible for the oral and general health of their patients. Increasing numbers of patients with complex medical problems are seeking dental care.[1] The U.S. Surgeon General's Report on Oral Health emphasizes the importance of oral health and its essential role in overall general health. The report highlights the need for interdisciplinary care between dental health care providers and physicians for the joint management of systemic and oral health problems.[2] Dental hygienists play an important role in the early identification and referral of patients with medical conditions and collaboration with other health professionals for comprehensive patient care.

In the United States, the most rapidly growing segment of the population is over the age of 85 years.[3] By the year 2050, it is estimated that 56% of the U.S. population will be at least 55 years of age and 25% of the population will be at least 65 years of age.[3] As the population ages, the prevalence of chronic systemic diseases—such as diabetes and cardiovascular diseases—is increasing.

Dental Practices as Health Screening Sites

Dental practices can serve as alternate sites of opportunity to identify health concerns among diverse groups of patients.[1,4–6] Many individuals seek dental care more often than other health care services and could benefit from the screening for medical conditions in dental offices.[6] Analysis of data from a nationally representative sample of United States' households finds that 26.0% of children and 24.1% of adults ***did not*** visit a medical health care provider in 2008.[6] Of these individuals (who did not see a medical provider), 37% of the children and 23.1% of the adults visited a dental office (a total of 19.5 million people).[6] Researcher Sheila Strauss suggests that dental health care providers can help patients by (1) examining the oral cavity for signs of systemic disease elsewhere in the body; (2) taking detailed medical histories, including information that could indicate medical conditions for follow-up; and (3) using tools such as blood pressure cuffs and finger-stick glucose monitors to check for biomarkers for such conditions as diabetes and hypertension.[6] Glucose monitors are inexpensive, and the screening can be done in less than 60 seconds. Box 5-2 outlines common methods for measuring blood glucose levels and how these findings relate to the risk of infection for planned treatment.

BOX
5-2

Glucose Blood Levels in Diabetes

Test	**Glucose Levels**
Hemoglobin A_{1c}	Goal for most people with diabetes = less than 7% High susceptibility to infection = above 8%
Finger-stick test	Glucose level at appointment time: • Acceptable = 80–120 mg/dl • Risk of infection = 180–300 mg/dl • Unacceptable = greater than 300 mg/dl

Risk Assessment: Physical Status

At this stage in the health history assessment process, the dental health care provider should consider the patient's **medical risk** when undergoing dental treatment. ***Modification of dental treatment may be necessary in certain medically complex patients***.[7] Today, many patients seen in the dental office have multiple medical conditions and are taking many medications. It is more difficult to manage these types of patients, and thorough assessment of their physical status is an important part of clinical practice.

The American Society of Anesthesiologists (ASA), pioneers in the field of patient safety in medical and dental care, developed a physical status system for assessing the risk to the patient of medical or dental treatment. ***The American Society of Anesthesiologists Physical Status Classification System (ASA-PS) serves an integral part of risk assessment in determining how the dental team should manage a patient***.[7,8] The ASA-PS is described in Table 5-1. This table outlines how a patient's physical status can affect the planning of dental care.

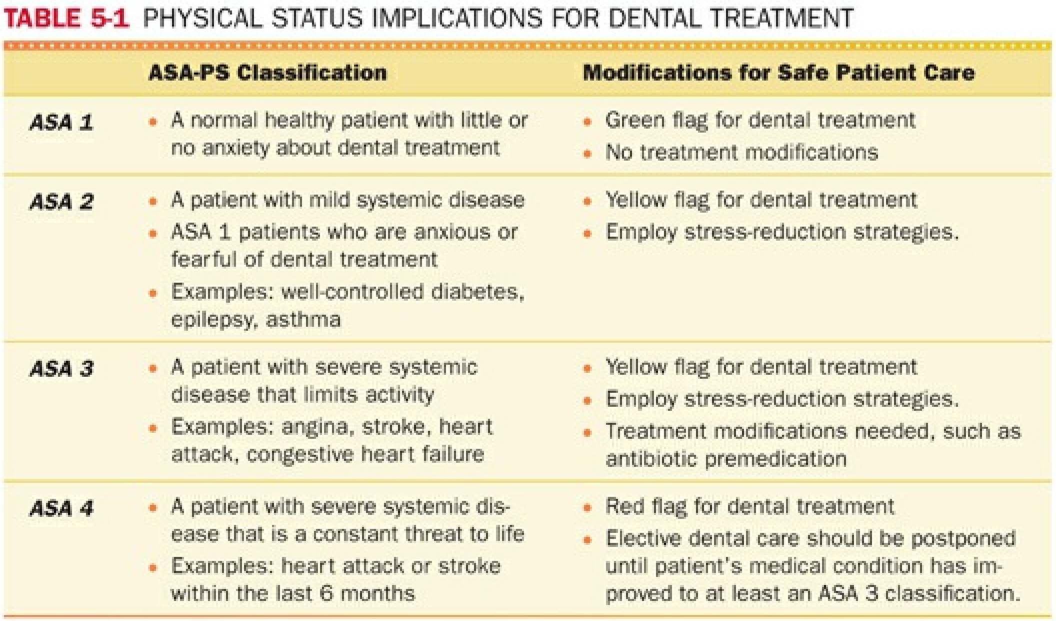


TABLE 5-1 PHYSICAL STATUS IMPLICATIONS FOR DENTAL TREATMENT

	ASA-PS Classification	Modifications for Safe Patient Care
ASA 1	• A normal healthy patient with little or no anxiety about dental treatment	• Green flag for dental treatment • No treatment modifications
ASA 2	• A patient with mild systemic disease • ASA 1 patients who are anxious or fearful of dental treatment • Examples: well-controlled diabetes, epilepsy, asthma	• Yellow flag for dental treatment • Employ stress-reduction strategies.
ASA 3	• A patient with severe systemic disease that limits activity • Examples: angina, stroke, heart attack, congestive heart failure	• Yellow flag for dental treatment • Employ stress-reduction strategies. • Treatment modifications needed, such as antibiotic premedication
ASA 4	• A patient with severe systemic disease that is a constant threat to life • Examples: heart attack or stroke within the last 6 months	• Red flag for dental treatment • Elective dental care should be postponed until patient's medical condition has improved to at least an ASA 3 classification.

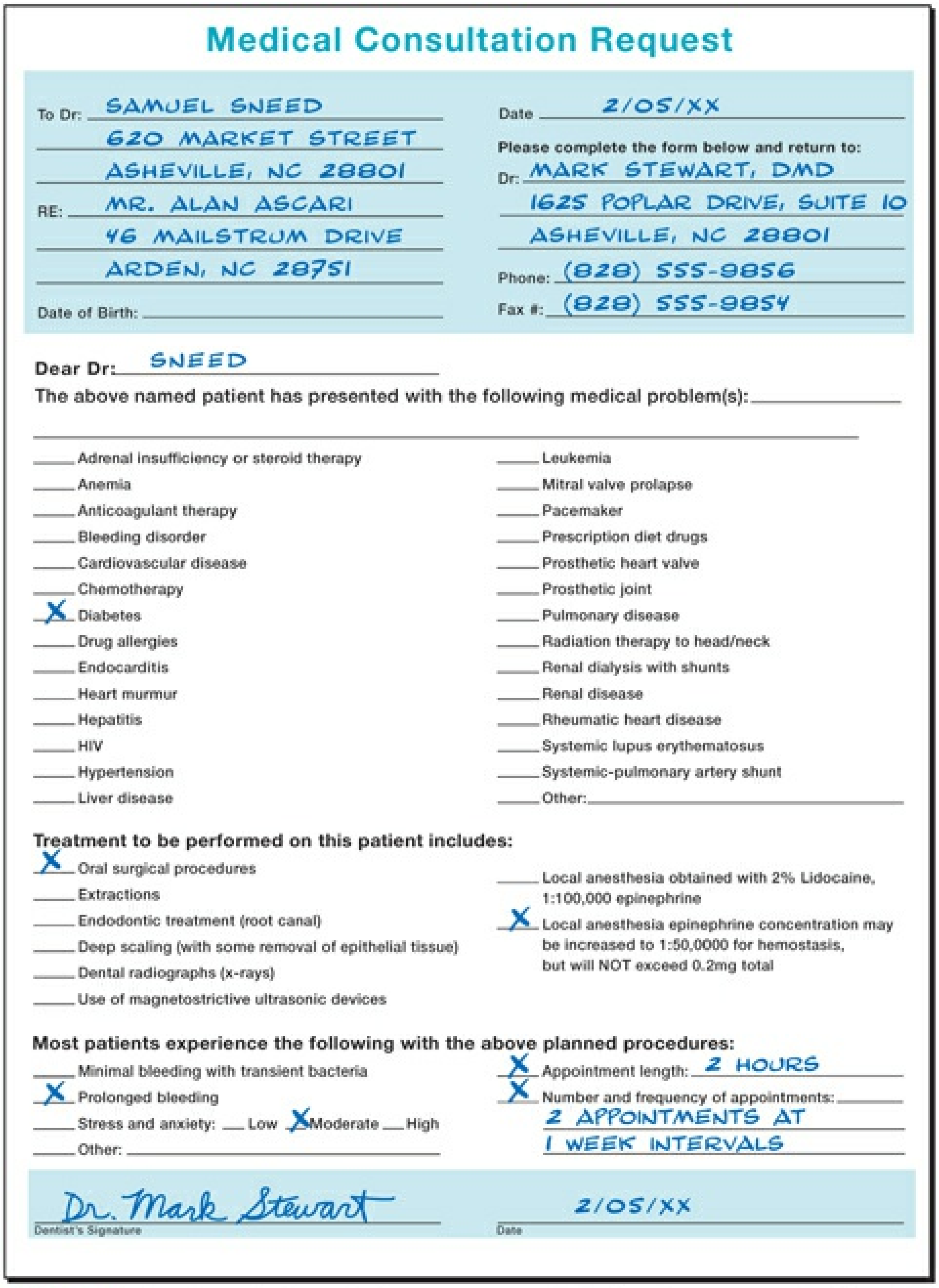
Interprofessional Collaboration

Interprofessional collaborative practice occurs when multiple health workers from different professional backgrounds work together with patients and family members/carers to deliver the highest quality of care.[9] Interprofessional collaboration involves continuous interaction and knowledge sharing between professionals—such as dentistry, medicine, medical radiation sciences, nursing, occupational therapy, pharmacy, physician assistant, physical therapy, social work, and speech-language pathology—with each individual contributing within the limits of his or her scope of practice.

Interprofessional education has been identified as a critical issue in dental education. Accreditation standards for dental education contain language promoting collaboration with other health professionals.[10] Research suggests that interprofessional collaboration improves coordination, communication, and ultimately, the quality and safety of patient care. It uses both the individual and collective skills of professionals, allowing them to function more effectively and deliver a higher level of services than each would working alone.

Consultation with a Physician

If all health questions are not completely answered through research and the patient interview, or if there is any question or doubt in making the best decisions, consulting with the patient's physician is necessary. A **medical consult** is simply a request for additional information and/or advice about the medical implications of oral health care treatment. A written request and reply referral is ideal because there is no doubt about either the question or the answer. Figures 5-5A and 5-5B provide an example of a two-page written request form for consultation with a physician.



Medical Consultation Request

To Dr: SAMUEL SNEED
620 MARKET STREET
ASHEVILLE, NC 28801

RE: MR. ALAN ASCARI
46 MAILSTRUM DRIVE
ARDEN, NC 28751

Date of Birth: ____________

Date 2/05/XX

Please complete the form below and return to:

Dr: MARK STEWART, DMD
1625 POPLAR DRIVE, SUITE 10
ASHEVILLE, NC 28801

Phone: (828) 555-9856

Fax #: (828) 555-9854

Dear Dr: SNEED

The above named patient has presented with the following medical problem(s): ____________

____ Adrenal insufficiency or steroid therapy
____ Anemia
____ Anticoagulant therapy
____ Bleeding disorder
____ Cardiovascular disease
____ Chemotherapy
X Diabetes
____ Drug allergies
____ Endocarditis
____ Heart murmur
____ Hepatitis
____ HIV
____ Hypertension
____ Liver disease
____ Leukemia
____ Mitral valve prolapse
____ Pacemaker
____ Prescription diet drugs
____ Prosthetic heart valve
____ Prosthetic joint
____ Pulmonary disease
____ Radiation therapy to head/neck
____ Renal dialysis with shunts
____ Renal disease
____ Rheumatic heart disease
____ Systemic lupus erythematosus
____ Systemic-pulmonary artery shunt
____ Other: ____________

Treatment to be performed on this patient includes:

X Oral surgical procedures
____ Extractions
____ Endodontic treatment (root canal)
____ Deep scaling (with some removal of epithelial tissue)
____ Dental radiographs (x-rays)
____ Use of magnetostrictive ultrasonic devices
____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
X Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

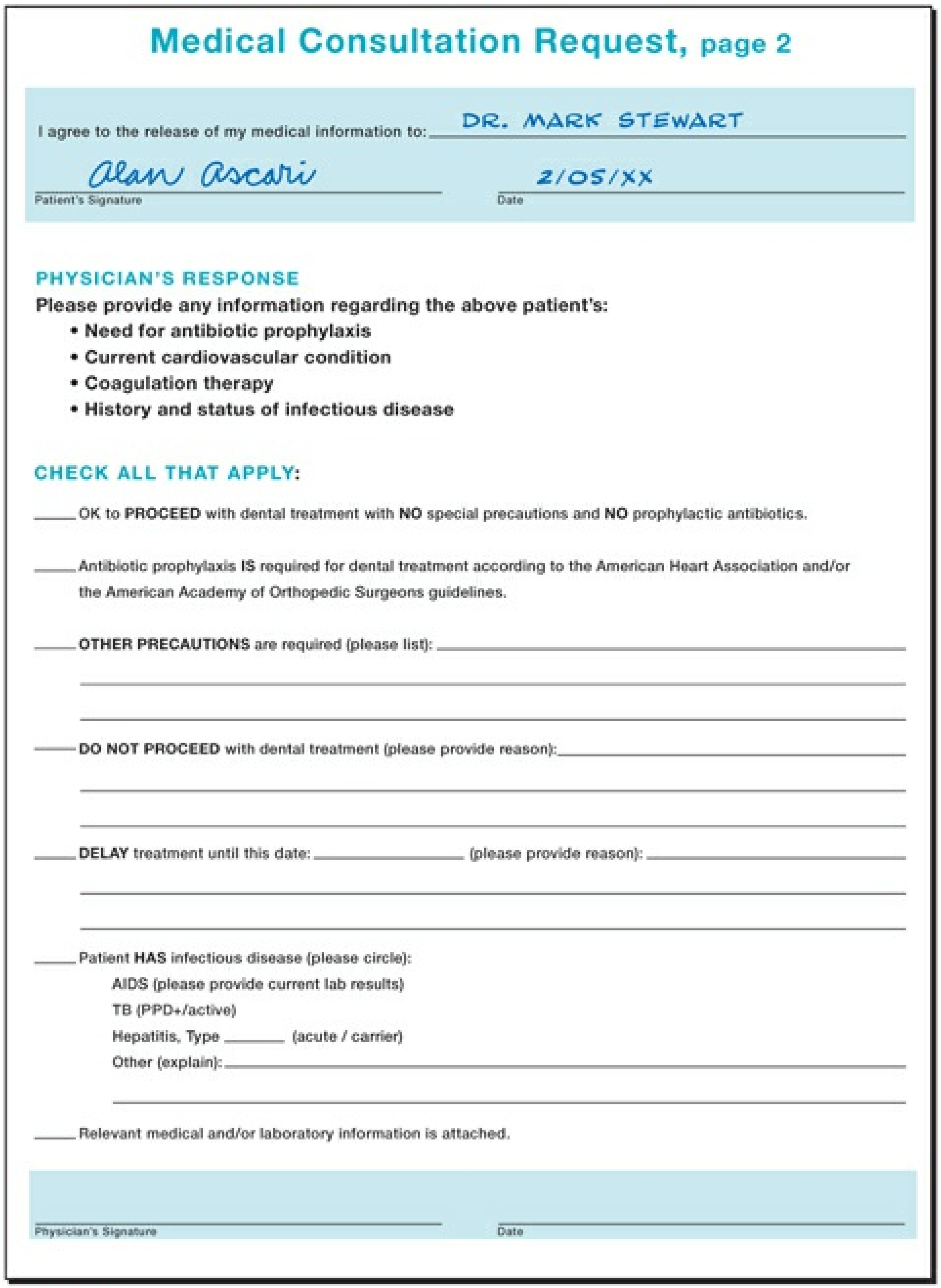
Most patients experience the following with the above planned procedures:

____ Minimal bleeding with transient bacteria
X Prolonged bleeding
____ Stress and anxiety: ___ Low X Moderate ___ High
____ Other: ____________
X Appointment length: 2 HOURS
X Number and frequency of appointments: 2 APPOINTMENTS AT 1 WEEK INTERVALS

Dr. Mark Stewart
Dentist's Signature

2/05/XX
Date

FIGURE 5-5A Sample medical consultation request, page 1. This form shows an example of page 1 of a completed medical consultant request for fictitious patient, Alan Ascari. Page 2 of this request form is shown on the next page.



Medical Consultation Request, page 2

I agree to the release of my medical information to: DR. MARK STEWART

Alan Ascari
Patient's Signature

2/05/XX
Date

PHYSICIAN'S RESPONSE

Please provide any information regarding the above patient's:

- Need for antibiotic prophylaxis
- Current cardiovascular condition
- Coagulation therapy
- History and status of infectious disease

CHECK ALL THAT APPLY:

____ OK to **PROCEED** with dental treatment with **NO** special precautions and **NO** prophylactic antibiotics.

____ Antibiotic prophylaxis **IS** required for dental treatment according to the American Heart Association and/or the American Academy of Orthopedic Surgeons guidelines.

____ **OTHER PRECAUTIONS** are required (please list): ____

____ **DO NOT PROCEED** with dental treatment (please provide reason): ____

____ **DELAY** treatment until this date: ____ (please provide reason): ____

____ Patient **HAS** infectious disease (please circle):
AIDS (please provide current lab results)
TB (PPD+/active)
Hepatitis, Type ____ (acute / carrier)
Other (explain): ____

____ Relevant medical and/or laboratory information is attached.

Physician's Signature

Date

FIGURE 5-5B Sample medical consultation request, page 2. The second page of a sample medical consultation form shows the patient's signature giving his physician permission to release medical information to the dental office. The remainder of the form is for the physician's response.

1. **Request in Writing.** A consultation request may be faxed to the physician to expedite the process. The request should be specific, concise, and directly to the point; therefore, a consultation form may be used to standardize and simplify the written request and physician's reply. All consultation requests should clearly indicate the following:

   a. Medical condition or disease of concern
   b. An explanation of the planned dental treatment and the likely systemic consequences
   c. A request for additional information and/or the physician’s professional opinion
   d. The patient’s signature authorizing the release of information; the dentist’s signature; and the dental office’s address, phone number, and fax number
   e. ***Preferably, the consult form should be in triplicate.*** One copy of the form is kept in the patient’s chart, one copy is given to the patient for his or her records, and one is sent or faxed to the physician.

2. **Explain Planned Treatment.** When consulting with a physician, it is important to remember that the physician is a medical expert who may have little or no knowledge regarding dental treatment procedures and how these procedures may relate to the patient’s systemic health. The use of dental terminology or jargon should be avoided when explaining the planned dental treatment.
3. **Outline Procedures.** When explaining the planned dental treatment to the physician, it is important to outline the procedures planned; length of time for each appointment; what surgical procedures will be done—including periodontal instrumentation; the amount of anticipated blood loss; possible complications, if any; and medications or anesthetics that will be used.
4. **Obtain Patient Consent.** Before contacting a patient’s physician, the ***patient must grant written consent*** for the physician to release information about the patient’s medical findings.
5. **Meet Legal Requirements.** Telephone consultations are not acceptable from a legal standpoint. If a consultation is conducted by telephone, request that the physician provide the information in writing by mail or fax.

When consulting with a physician, it is important to remember that the *physician is a medical expert who may have little or no knowledge regarding dental treatment procedures and how these procedures may relate to the patient's systemic health.*

SECTION 3 • Informed Consent and the Medical History

The core value of "Individual Autonomy and Respect for Human Beings" within the Code of Ethics for the American Dental Hygienists' Association (ADHA) discusses informed consent.[11] According to this core value, "People . . . have the right to full disclosure of all relevant information so they can make informed choices about their care."

1. **Informed Consent for Patient Assessment**
   a. It is the responsibility of the dental hygienist to provide complete and comprehensive information about patient assessment procedures and planned dental hygiene treatments so that the patient can make a well-informed decision about either accepting or rejecting the proposed treatment.
   b. **Informed consent** not only involves informing the patient about the expected successful outcomes of assessment procedures but the possible risks, unanticipated outcomes and alternative treatments as well. The patient also should be made aware of the costs for each of the options involved, which may influence the patient's ultimate decision.
2. **Capacity for Consent.** A patient must also have the capacity to consent.
   a. **Capacity for consent**—the ability of a patient to fully understand the proposed treatment, possible risks, unanticipated outcomes, and alternative treatments—takes into account the patient's age, mental capacity, and language comprehension.
   b. A dialogue between the patient and the hygienist is the best way to initiate the informed consent process.
3. **Informed Refusal.** Despite being informed of the proposed treatments,

risks, and alternatives, the patient may decide to refuse one or more of the recommended assessment procedures. This is called "**informed refusal**."

- a. Autonomy, as defined by the ADHA Code of Ethics, guarantees "self-determination" of the patient and is linked to informed consent.[11]
- b. Only after the patient has received informed consent can a decision be made to either accept or reject the proposed treatment. Radiographs, fluoride treatments, and sealants are a few of the dental services for which patients have exercised informed refusal.
- c. Although refusal may not be the optimal choice of the treating hygienist, the patient has a right to make any decision about his or her treatments that only affects him or her personally and does not pose a threat to others.
- d. In the case of *Erickson v. Dilgard*, the patient's right of refusal of a blood transfusion was upheld by the court despite the possibility of causing the patient's death (*Erickson v. Dilgard*, 44 Misc. 2d 27, 252 N.Y.S. 2d 705 [Sup. Ct., 1962]). Patients may refuse treatment for a number of reasons including religious beliefs, fear, or simply impulse. Proceeding with a treatment that has been refused by a patient can subject the clinician to liability for assault (causing fear) and/or battery (unconsented touching).

4. **Patient Responsibilities**
   - a. The patient also has responsibilities and duties when receiving oral health care. One duty is to provide accurate responses on the medical history assessment regarding his or her current health status.
     1. In a case in Newfoundland, Canada, the judge stated that " . . . a patient has a duty to herself to do everything reasonably necessary to ensure she is properly diagnosed . . . As part of that duty, the patient must disclose all relevant and pertinent information in order to permit . . . a proper diagnosis of her medical condition."[12]
     2. Simply stated, the practitioner and patient relationship is a "two-way street." A practitioner should attempt to put the patient at ease

when filling out a medical history, so the patient is comfortable revealing the most private of medical details.

b. For some patients, the obstacles of comprehending the medical history questions prevent them from filling out the forms completely. For others, there may be embarrassment in being truthful, and fear of being judged or refused treatment.

c. Other patients may ask about the necessity of filling out such a comprehensive medical history assessment when “I only want my teeth cleaned.” All patients must be made aware of the link between systemic and oral health, as noted in the text, and the importance of an accurate medical history in order for the practitioner to provide optimal treatment. Box 5-3 provides an example of how a clinician might respond to a patient’s questions about why it is necessary to fill out a comprehensive medical history in the dental office.

BOX
5-3

Sample Explanation on the Importance of a Medical History

It is extremely important for you to fill out a complete and accurate medical history today. The decision about what treatments are best for you cannot be decided unless Dr. ___________ is aware of all of your medical conditions and medications/supplements that you take. This information is needed to protect your health and, in turn, not cause you harm.

Some medical conditions require premedication, such as an antibiotic, before dental treatment. Some medical conditions may cause you to have a poor outcome of a proposed dental treatment. Some materials/drugs used in dentistry may conflict with medications you are presently taking and/or cause an adverse reaction. It is impossible to know how you are going to react to a given dental treatment if we are unaware of your total physical, mental, and dental health. By taking the time to fill out comprehensive medical history, you can help Dr. ___________ decide which dental treatments are optimal and designed specifically for you, without the possible risks of medical or dental complications.

It is also important that your medical history be reviewed at each appointment to account for any changes since your last visit. Even if you were in a week before, you could have started a new medication or had a medical procedure that could influence your dental treatment.

You and the dental team assume equal roles in your overall dental care. Your role is to provide correct medical information so that the dental team can, in turn, provide dental treatment individually designed for your dental care needs.

SECTION 4 • Conducting a Medical History Assessment

To conduct a thorough medical history assessment, the dental health care provider must have a methodical plan for information gathering and review. The plan should prevent oversights or omissions of important information about the patient's medical history. This section describes a methodical plan for conducting the thorough medical history assessment required for safe patient treatment. The main steps in conducting a medical history assessment are (1) information gathering and (2) determination of medical risk.

The goal of the medical history assessment is to obtain complete information about the patient's past and present history of medical conditions and diseases, including prescription and over-the-counter medications. One successful approach for obtaining information is to combine the use of a written questionnaire to be completed by the patient with an interview of the patient. The interview provides an opportunity to clarify information and ask follow-up questions about information on the written questionnaire.

Information Gathering

The **information-gathering phase** of patient's medical history involves:

- **Reading thoroughly.** Carefully read every line and every check box on the history form completed by the patient.
- **Prioritizing.** Determine if the patient is in pain. If the patient is in pain, remember that alleviating pain takes precedence over other dental

treatment.

- **Researching conditions.** Research medical conditions and diseases.
- **Researching drugs.** Research medications—prescription and over-the-counter.
- **Formulating questions.** Formulate questions to ask the patient during the medical history interview.
- **Interviewing.** After a thorough review of the health history form, the clinician should interview the patient. In order to acquire a comprehensive picture of the patient's health and medications, the clinician asks questions to clarify information on the form and to obtain additional information.
- **Consulting.** Determine the need for consultation with a physician or other health specialist.

Medical Alert Box

Medical conditions/diseases or medications that necessitate modifications or special precautions should be clearly marked in a **medical alert box** on the patient record (Box 5-4).

BOX
5-4

Contents of Medical Alert Box

- Any medical condition or disease that will alter dental treatment
- Any medical condition or disease that will alter drugs used during dental treatment or prescribed for the patient to treat dental conditions
- Any medical condition or disease that places the patient at risk for medical emergency during dental treatment
- Any medical condition or disease that could result in a postoperative complication

Stress Reduction Protocol for Anxious Patients

For certain individuals, an upcoming dental appointment causes considerable anxiety and stress. For anxious patients, stress reduction strategies are recommended (Box 5-5).

BOX
5-5

Strategies for Stress Reduction

- **Good communication.** Use empathy and effective communication to establish trust and determine the cause(s) of the patient's anxiety.
- **Reduce anxiety.** Premedicate as needed with an antianxiety medication for use (1) the night before the appointment to aid the patient in getting a good night's sleep and (2) the day of the appointment.
- **Scheduling.** Schedule appointments early in the day (so that patient will not have all day to worry about the upcoming treatment).
- **Suggestions for patient.** Suggest that the patient eat a normal meal before the appointment and allow ample travel time to get to the dental office or clinic.
- **Length of treatment.** Keep appointments short.
- **Pain control.** Ensure good pain control before, during, and after the appointment, as appropriate, including the use of pain medications and local anesthesia.

SECTION 5 • Peak Procedure

Procedure 5-1. Review of Written Questionnaire and Patient Interview

Action	Rationale
1. Read through every line and check box. Are all the questions answered?	• Complete information is important to protect the patient's health.

2. Can you understand what is written?	• Make a note to ask the patient about anything that is not clear.
3. Did the patient sign and date the form?	• The history must be signed and dated.
4. Circle **YES** responses in red pencil.	• YES answers should be discussed during the interview.
5. Read through handwritten responses made by the patient. Circle concerns in red pencil.	• Discuss concerns during the interview.
6. Research medical conditions and diseases including: **a.** Definition **b.** Symptoms or manifestations **c.** Treatments and medications **d.** Systemic side effects that may necessitate treatment modifications **e.** Oral manifestations **f.** Impact on dental care	• This is basic data that will be used to formulate questions for the patient and to determine if dental care involves any risks for the patient. Common medical conditions and diseases may be researched by using the Ready References found in Module 6.
7. Identify risks to the patient's overall health, such as poorly controlled diabetes, obesity, periodontal disease, and	• Dental health care providers should identify systemic health risks and promote wellness.

tobacco use. Identify systemic factors that increase the risk of periodontal disease, such as tobacco use, poorly controlled diabetes, hormone alterations, psychosocial stress, and medications. **Circle concerns in red pencil.**	• There is a connection between periodontitis and systemic health. Periodontal infection may contribute to the development of heart disease, premature/underweight babies, poorly controlled diabetes, and respiratory diseases. • Dental health care providers should be alert for systemic factors that may increase the risk of developing periodontal disease.
8. Research the patient’s medications, prescribed and nonprescription, including: **a.** Drug use **b.** Systemic side effects **c.** Oral side effects **d.** Dental treatment modifications or concerns Medications can be researched on the Internet, in drug reference books, and using the Ready References found in Module 6 of this book.	• It is important to determine why each medication is being taken. • Some patients are not knowledgeable about their medical conditions. In such cases, medications can be a valuable clue to the patient’s health status. • Many medications have systemic side effects that may necessitate modifications to dental treatment. For example, many medications cause

	dizziness or orthostatic hypotension, thus indicating that the clinician should adjust the chair position slowly. • Other medications have side effects that can alter a patient’s dental health. Xerostomia, gingival overgrowth, and gingival bleeding are examples of oral side effects. • Some medications dictate modifications or precautions before, during, or after to dental treatment. For example, a blood thinning medication reduces the ability of the blood to clot.
9. Ask the patient questions about his or her medical conditions or diseases. **a. Duration**—When was the condition first diagnosed? **b. Treatments and Procedures**—What is being done to treat the condition? **c. Episodes**—What brings on the condition? What changes the severity?	• This factual information is important in determining if the patient can be treated safely. • Certain medical conditions and diseases have oral manifestations. • Certain medical conditions affect the health of the periodontium.

10. Ask the patient questions about the medications, prescription and over-the-counter, as well as any herbal/vitamin supplements that he or she is taking. **a.** How long? Date started and ended **b.** How much? Dosage	• This factual information is important in determining if the patient can be treated safely. • Certain medical conditions and diseases have oral manifestations.

NOTE: The next chapter, **Module 6: Ready References: Medical History**, contains two Ready References designed to provide fast access to commonly encountered medical conditions and medications.

- Ready Reference 6-1. Common Conditions of Concern in Dentistry
- Ready Reference 6-2. Commonly Prescribed Drugs

SECTION 6 • The Human Element

Through the Eyes of Clinicians and Patients

A COMPLICATED MEDICAL HISTORY

It was my third week of clinic, and I was feeling quite confident about medical history assessments. I started thinking that the lecture we had in clinic theory on assessing medical histories was very unrealistic. The example the instructor gave us was a patient on seven different drugs and three different diseases.

Well today was the day! The health history form seemed to have as many questions checked in the “Yes” column as the “No” column. I started to panic, thinking that it was going to take me all day to review the medical history and that the patient would be upset with me for taking so long. The patient was overweight and had diabetes, high blood pressure, and high cholesterol. She checked “Yes” to chest pain on exertion, sleep disorder, and being out of breath. Her medications included several cardiac drugs as well as insulin.

I began looking things up in a reference book when my instructor looked over my shoulder and asked me if I had ever heard of “metabolic syndrome.” I looked it up in a reference book. Suddenly, all the “Yes” questions made sense. I felt I had a handle on the patient’s overall condition. That confidence allowed me to readily gather the rest of the information, link it together, and conduct the patient interview. It turned out to be a great appointment. My patient was so nice, and I learned a lot about her and her health history.

Stephanie, student

Tallahassee Community College

SATISFACTION WITH DENTAL CARE

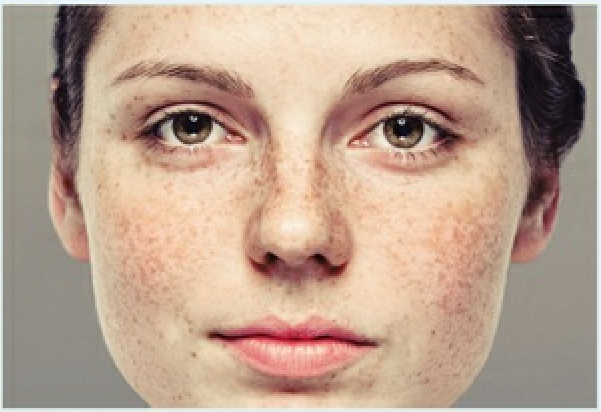
Interview someone who has recently received dental hygiene care in a dental office. Using open-ended questions, encourage the person to relate his or her experiences as a dental patient receiving care from a dental hygienist. Listen for what this person perceived as positive and supportive or negative and nonsupportive about the care provided by the hygienist. Reflect on the person's experience and write a paragraph or participate in a group discussion on how this information will impact how you provide care as a dental hygienist.

MEDICAL HISTORIES MAY ELICIT SENSITIVE INFORMATION

Generate a list of topics you would find embarrassing to discuss with patients when gathering information during the medical history assessment. For example, when inquiring about recent hospitalizations or current medications, would you feel uncomfortable if the patient shared that she was hospitalized 2 months ago after a miscarriage; or a patient that shares that he is taking a medication for a sexually transmitted disease? With other students, generate a list of potentially embarrassing topics (for the clinician and/or the patient) and discuss potential strategies to approach these topics and manage embarrassment.

Ethical Dilemma

CAN A 17-YEAR-OLD CONSENT TO TREATMENT?



Your last patient of the morning is Sandy L., a 17-year-old who is new to the dental practice. Her mother is sitting with Sandy in the waiting room, helping her fill out her medical history assessment. You call Sandy into your operatory. Her mother tells you that she will wait for Sandy and would like to speak to the dentist before she is discharged today.

You begin reviewing Sandy's medical history with her, which appears uneventful. After you complete her extra- and intraoral exam, you discuss with Sandy the office policy of taking radiographs on new patients. Sandy states that she has not had any x-rays in a few years and agrees. As you are about to place the first radiograph in her mouth, Sandy begins to cry. Assuming she has fear of the dental office, you stop and try to comfort her. Sandy states that she has no fear but suspects that she may be pregnant and has heard that radiation “could harm the baby.” Sandy pleads with you not to tell anyone, especially her mother.

1. What is the best way for you to handle this ethical dilemma?
2. Can a 17-year-old consent to treatment or must you receive parental consent?
3. Under the ethical principle of confidentiality, can you discuss this with your employer dentist, without violating Sandy’s confidentiality?
4. Do you have the right to divulge Sandy’s pregnancy to her mother?

English-to-Spanish Phrase Lists

USING THE ENGLISH-TO-SPANISH PHRASE LISTS

According to the United States Census Bureau, more than one-half of the 2002 foreign-born residents in the United States were born in Latin America. Communication problems can occur when an English-speaking clinician tries to communicate with a patient who is not fluent in English.

- Teaching student clinicians to pronounce and speak Spanish is well beyond the scope of this book and, indeed, of most professional curriculums.
- For those times when a trained medical translator is not available, the modules in this textbook include English-to-Spanish phrase lists with phrases pertinent to the assessment process. The first of these phrase lists is found in Table 5-2 on the following page.
- To use these phrase lists, the student clinician simply points to a specific phrase in the patient’s native language to facilitate communication.

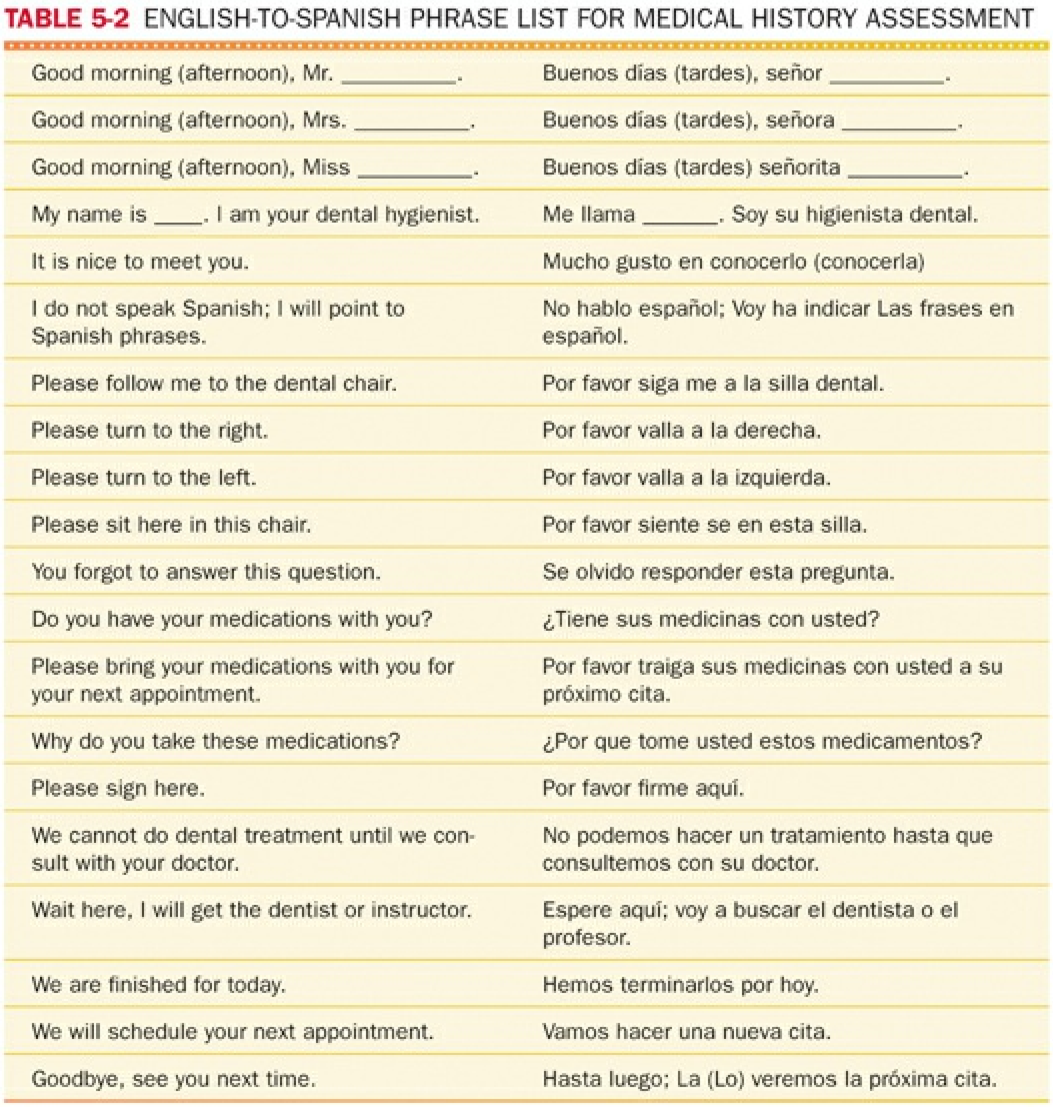
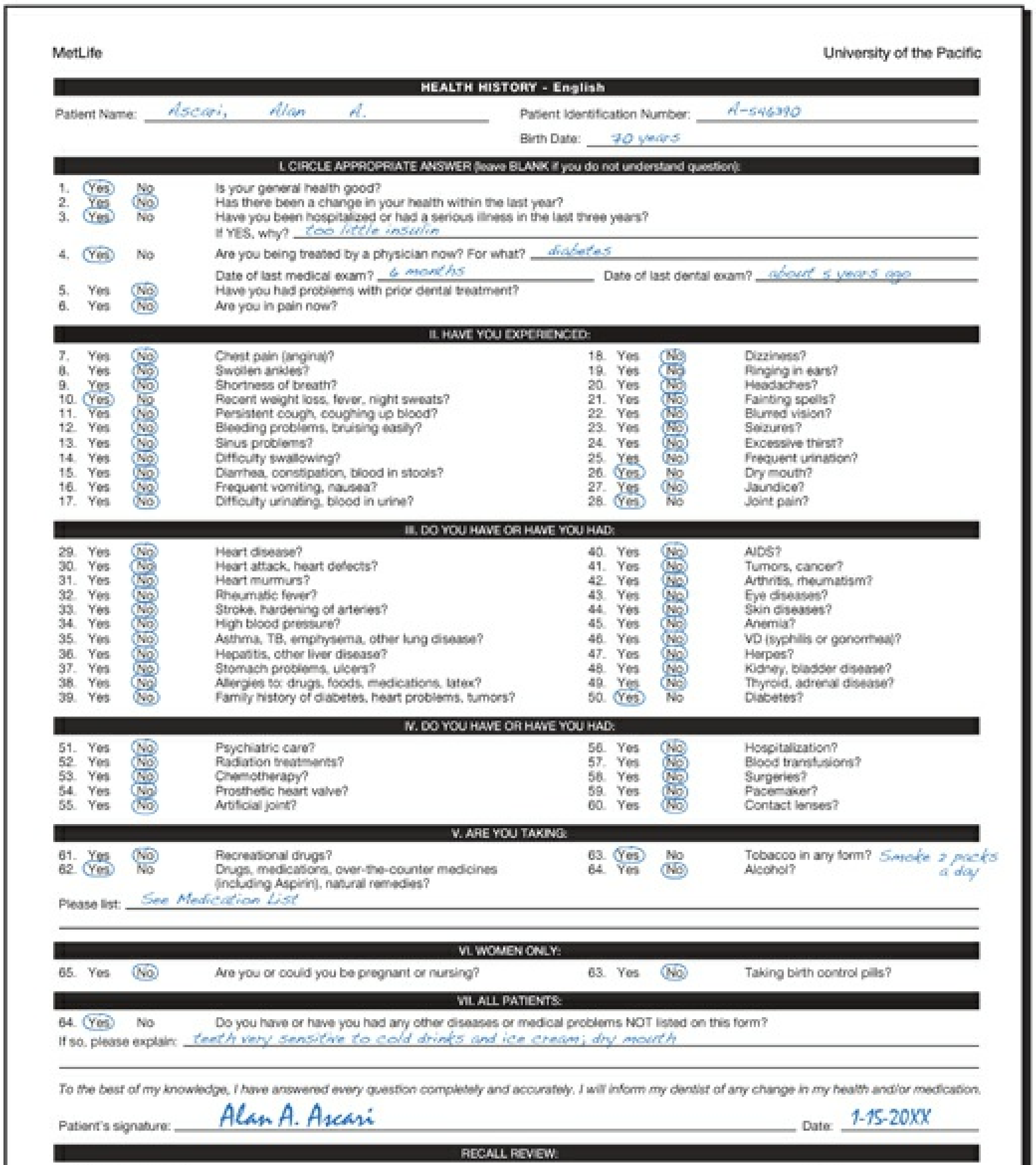


TABLE 5-2 ENGLISH-TO-SPANISH PHRASE LIST FOR MEDICAL HISTORY ASSESSMENT

Good morning (afternoon), Mr. __________.	Buenos días (tardes), señor __________.
Good morning (afternoon), Mrs. __________.	Buenos días (tardes), señora __________.
Good morning (afternoon), Miss __________.	Buenos días (tardes) señorita __________.
My name is _____. I am your dental hygienist.	Me llama _______. Soy su higienista dental.
It is nice to meet you.	Mucho gusto en conocerlo (conocerla)
I do not speak Spanish; I will point to Spanish phrases.	No hablo español; Voy ha indicar Las frases en español.
Please follow me to the dental chair.	Por favor siga me a la silla dental.
Please turn to the right.	Por favor valla a la derecha.
Please turn to the left.	Por favor valla a la izquierda.
Please sit here in this chair.	Por favor siente se en esta silla.
You forgot to answer this question.	Se olvido responder esta pregunta.
Do you have your medications with you?	¿Tiene sus medicinas con usted?
Please bring your medications with you for your next appointment.	Por favor traiga sus medicinas con usted a su próximo cita.
Why do you take these medications?	¿Por que tome usted estos medicamentos?
Please sign here.	Por favor firme aquí.
We cannot do dental treatment until we consult with your doctor.	No podemos hacer un tratamiento hasta que consultemos con su doctor.
Wait here, I will get the dentist or instructor.	Espere aquí; voy a buscar el dentista o el profesor.
We are finished for today.	Hemos terminarlos por hoy.
We will schedule your next appointment.	Vamos hacer una nueva cita.
Goodbye, see you next time.	Hasta luego; La (Lo) veremos la próxima cita.

SECTION 7 • Practical Focus—Fictitious Patient Cases

This section contains the medical history and medication list for five fictitious patients, patients A to E. In addition, **Health History Interview** and **Medical Consultation Request** forms are provided for patients A to E (Figs. 5-6 to 5-25).



MetLife | University of the Pacific

HEALTH HISTORY - English

Patient Name: Ascari, Alan A.

Patient Identification Number: A-546390

Birth Date: 70 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1. [✓ Yes] No Is your general health good?
2. Yes [✓ No] Has there been a change in your health within the last year?
3. [✓ Yes] No Have you been hospitalized or had a serious illness in the last three years?
If YES, why? too little insulin
4. [✓ Yes] No Are you being treated by a physician now? For what? diabetes
Date of last medical exam? 6 months Date of last dental exam? about 5 years ago
5. Yes [✓ No] Have you had problems with prior dental treatment?
6. Yes [✓ No] Are you in pain now?

II. HAVE YOU EXPERIENCED:

7.	Yes [✓ No]	Chest pain (angina)?	18.	Yes [✓ No]	Dizziness?
8.	Yes [✓ No]	Swollen ankles?	19.	Yes [✓ No]	Ringing in ears?
9.	Yes [✓ No]	Shortness of breath?	20.	Yes [✓ No]	Headaches?
10.	[✓ Yes] No	Recent weight loss, fever, night sweats?	21.	Yes [✓ No]	Fainting spells?
11.	Yes [✓ No]	Persistent cough, coughing up blood?	22.	Yes [✓ No]	Blurred vision?
12.	Yes [✓ No]	Bleeding problems, bruising easily?	23.	Yes [✓ No]	Seizures?
13.	Yes [✓ No]	Sinus problems?	24.	Yes [✓ No]	Excessive thirst?
14.	Yes [✓ No]	Difficulty swallowing?	25.	Yes [✓ No]	Frequent urination?
15.	Yes [✓ No]	Diarrhea, constipation, blood in stools?	26.	[✓ Yes] No	Dry mouth?
16.	Yes [✓ No]	Frequent vomiting, nausea?	27.	Yes [✓ No]	Jaundice?
17.	Yes [✓ No]	Difficulty urinating, blood in urine?	28.	[✓ Yes] No	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes [✓ No]	Heart disease?	40.	Yes [✓ No]	AIDS?
30.	Yes [✓ No]	Heart attack, heart defects?	41.	Yes [✓ No]	Tumors, cancer?
31.	Yes [✓ No]	Heart murmurs?	42.	Yes [✓ No]	Arthritis, rheumatism?
32.	Yes [✓ No]	Rheumatic fever?	43.	Yes [✓ No]	Eye diseases?
33.	Yes [✓ No]	Stroke, hardening of arteries?	44.	Yes [✓ No]	Skin diseases?
34.	Yes [✓ No]	High blood pressure?	45.	Yes [✓ No]	Anemia?
35.	Yes [✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes [✓ No]	VD (syphilis or gonorrhea)?
36.	Yes [✓ No]	Hepatitis, other liver disease?	47.	Yes [✓ No]	Herpes?
37.	Yes [✓ No]	Stomach problems, ulcers?	48.	Yes [✓ No]	Kidney, bladder disease?
38.	Yes [✓ No]	Allergies to: drugs, foods, medications, latex?	49.	Yes [✓ No]	Thyroid, adrenal disease?
39.	Yes [✓ No]	Family history of diabetes, heart problems, tumors?	50.	[✓ Yes] No	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes [✓ No]	Psychiatric care?	56.	Yes [✓ No]	Hospitalization?
52.	Yes [✓ No]	Radiation treatments?	57.	Yes [✓ No]	Blood transfusions?
53.	Yes [✓ No]	Chemotherapy?	58.	Yes [✓ No]	Surgeries?
54.	Yes [✓ No]	Prosthetic heart valve?	59.	Yes [✓ No]	Pacemaker?
55.	Yes [✓ No]	Artificial joint?	60.	Yes [✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes [✓ No]	Recreational drugs?	63.	[✓ Yes] No	Tobacco in any form? Smoke 2 packs a day
62.	[✓ Yes] No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes [✓ No]	Alcohol?

Please list: See Medication List

VI. WOMEN ONLY:

65. Yes [✓ No] Are you or could you be pregnant or nursing? 63. Yes [✓ No] Taking birth control pills?

VII. ALL PATIENTS:

64. [✓ Yes] No Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain: teeth very sensitive to cold drinks and ice cream; dry mouth

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

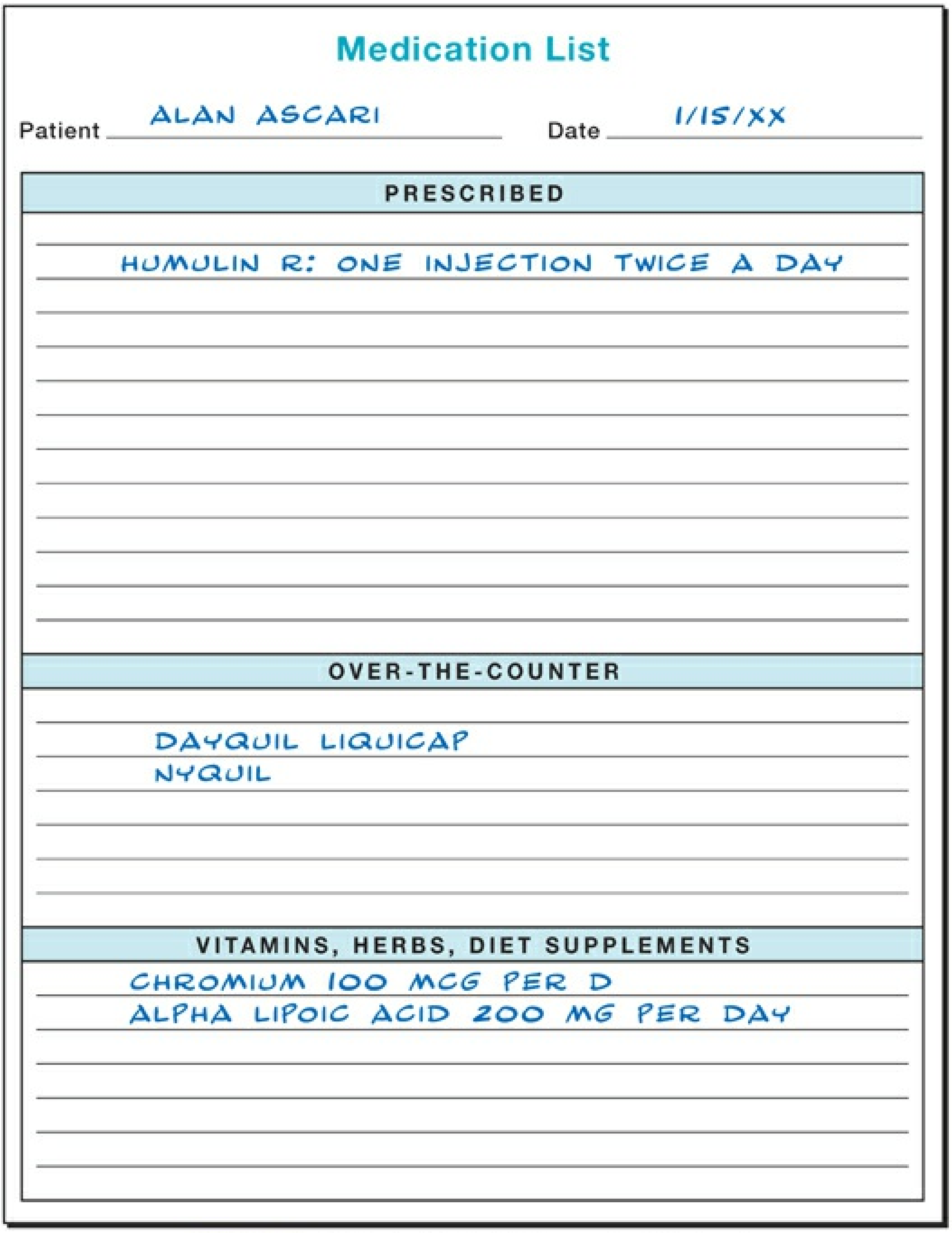
Patient's signature: Alan A. Ascari Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: ______ Date: ______
2. Patient's signature: ______ Date: ______
3. Patient's signature: ______ Date: ______

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-6 The health history form for fictitious patient Mr. Ascari.



Medication List

Patient ALAN ASCARI Date 1/15/XX

PRESCRIBED

HUMULIN R: ONE INJECTION TWICE A DAY

OVER-THE-COUNTER

DAYQUIL LIQUICAP

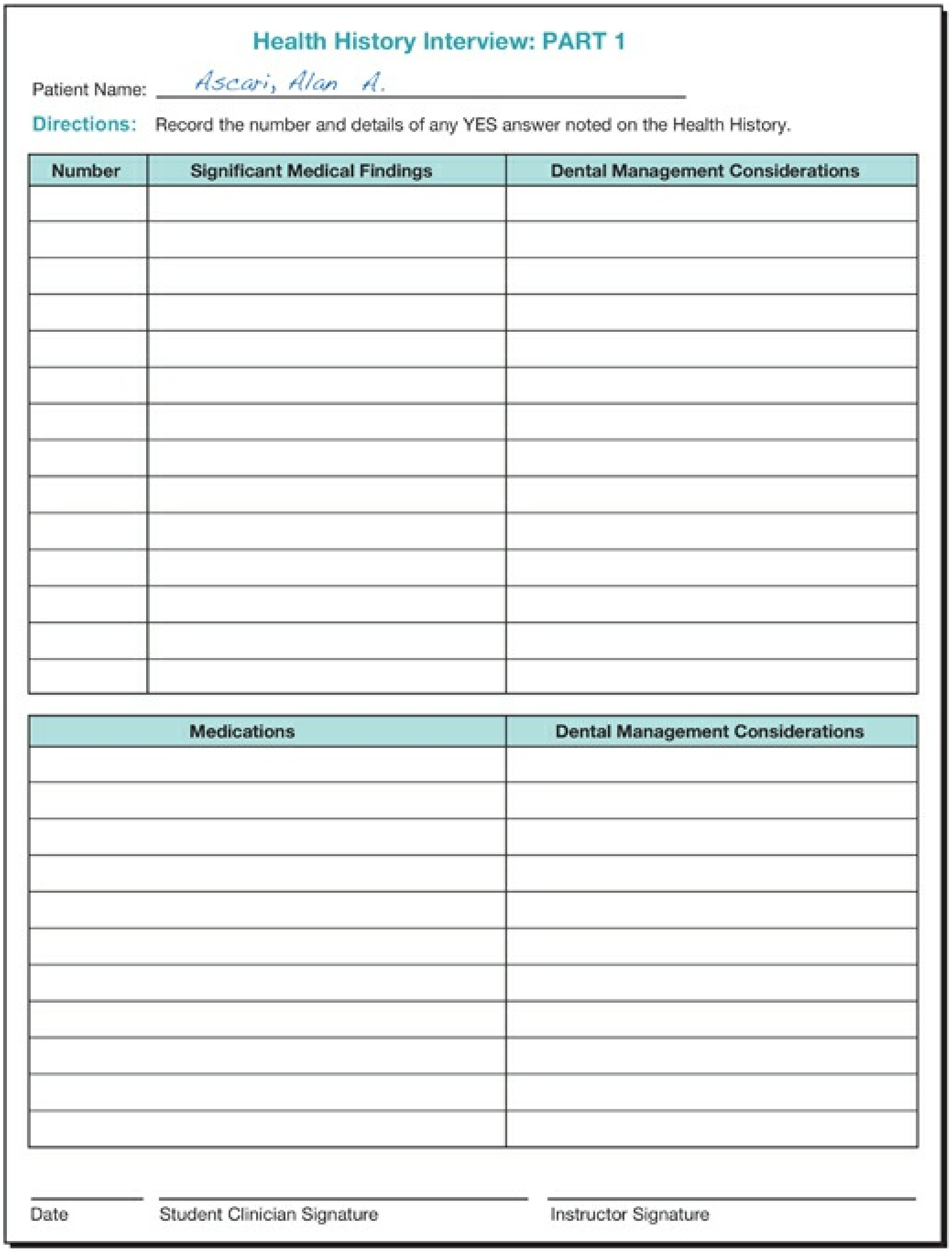
NYQUIL

VITAMINS, HERBS, DIET SUPPLEMENTS

CHROMIUM 100 MCG PER D

ALPHA LIPOIC ACID 200 MG PER DAY

FIGURE 5-7 Medication list for fictitious patient Mr. Ascari.



Health History Interview: PART 1

Patient Name: Ascari, Alan A.

Directions: Record the number and details of any YES answer noted on the Health History.

Number	Significant Medical Findings	Dental Management Considerations

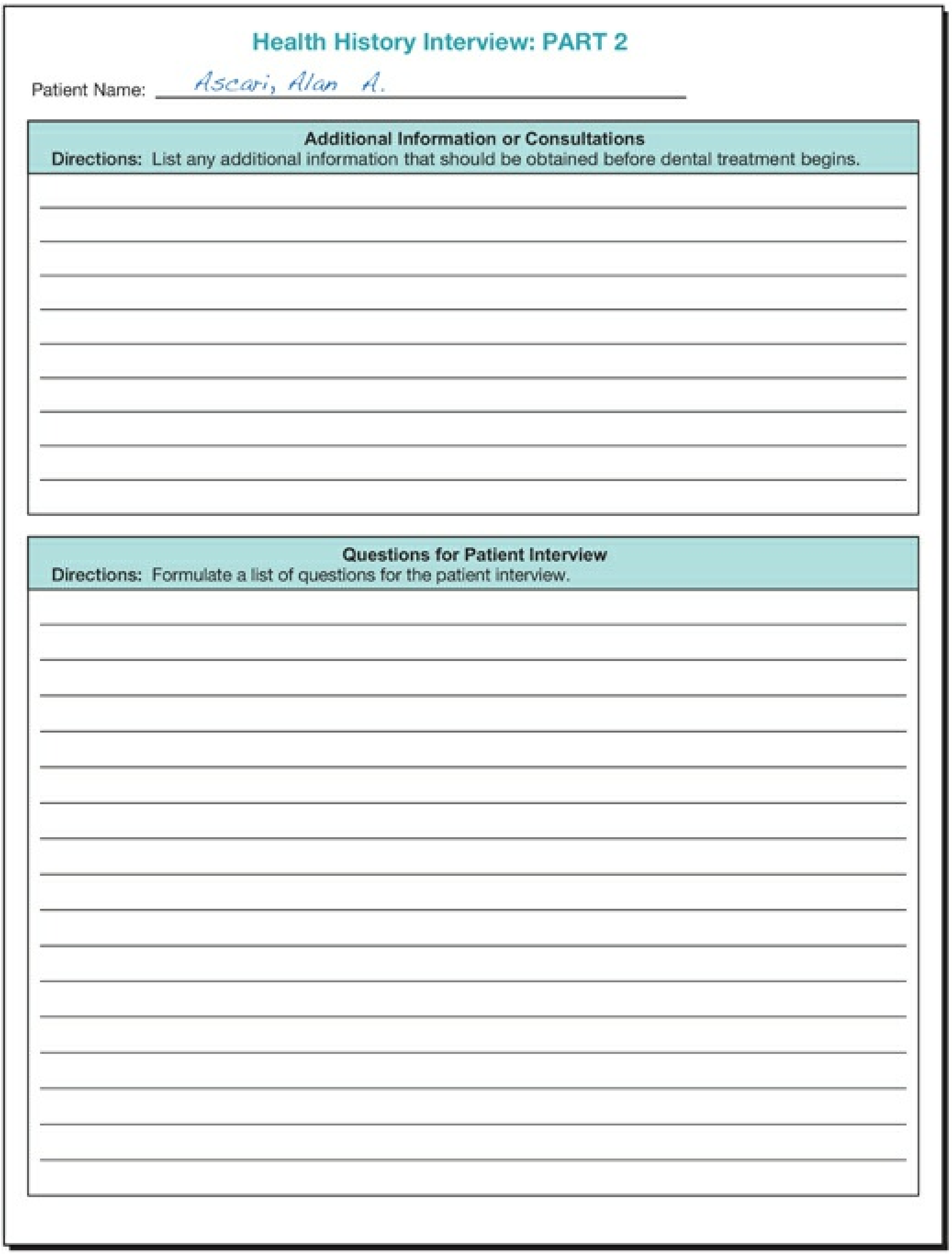
Medications	Dental Management Considerations

Date

Student Clinician Signature

Instructor Signature

FIGURE 5-8A Mr. Ascari: health history synopsis part 1.



Health History Interview: PART 2

Patient Name: Ascari, Alan A.

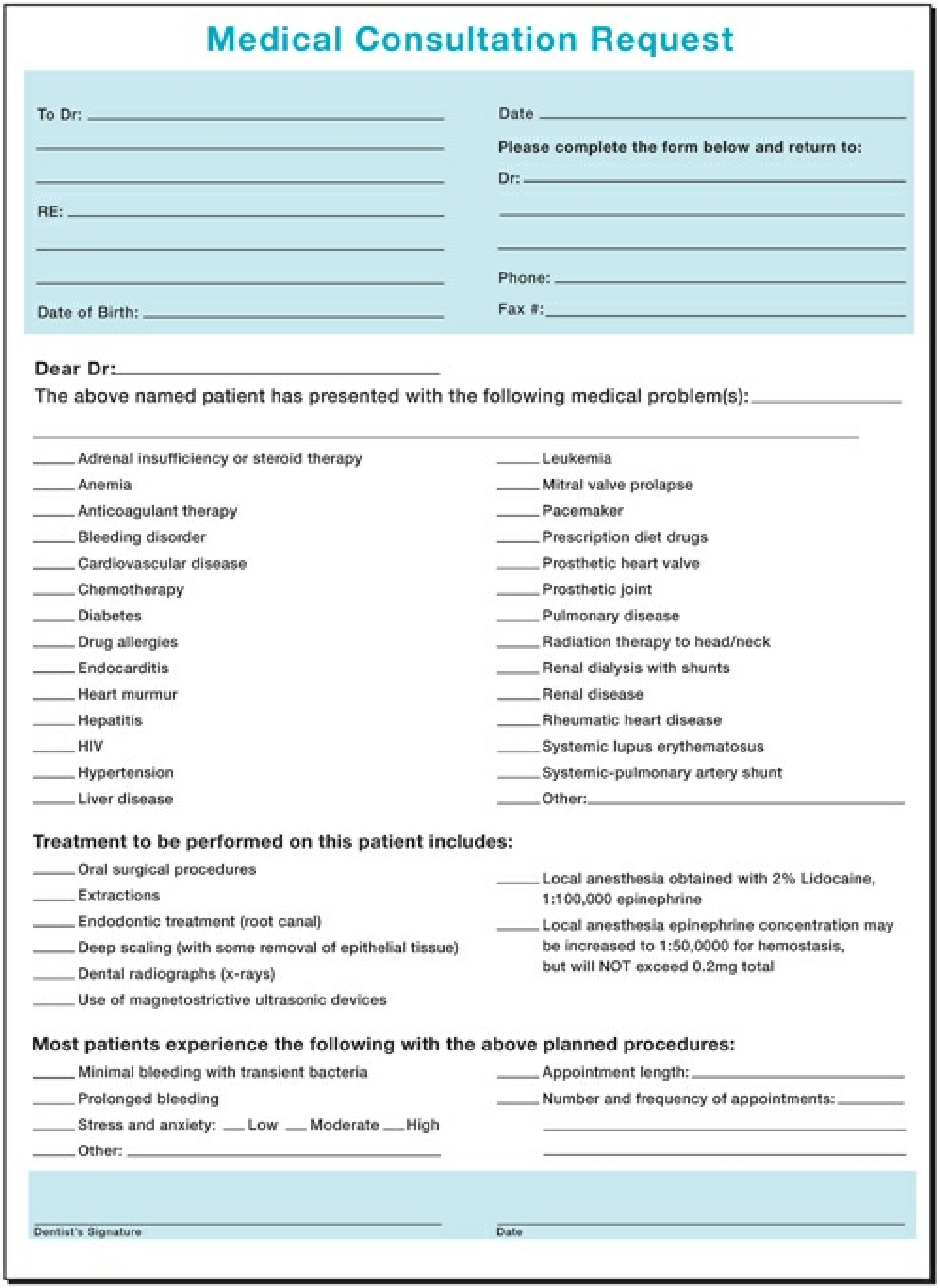
Additional Information or Consultations

Directions: List any additional information that should be obtained before dental treatment begins.

Questions for Patient Interview

Directions: Formulate a list of questions for the patient interview.

FIGURE 5-8B Mr. Ascari: health history synopsis part 2.



Medical Consultation Request

To Dr: ____
____
____
RE: ____
____
____
Date of Birth: ____

Date ____

Please complete the form below and return to:

Dr: ____
____
____
Phone: ____
Fax #: ____

Dear Dr: ____

The above named patient has presented with the following medical problem(s): ____

____

____ Adrenal insufficiency or steroid therapy
____ Anemia
____ Anticoagulant therapy
____ Bleeding disorder
____ Cardiovascular disease
____ Chemotherapy
____ Diabetes
____ Drug allergies
____ Endocarditis
____ Heart murmur
____ Hepatitis
____ HIV
____ Hypertension
____ Liver disease
____ Leukemia
____ Mitral valve prolapse
____ Pacemaker
____ Prescription diet drugs
____ Prosthetic heart valve
____ Prosthetic joint
____ Pulmonary disease
____ Radiation therapy to head/neck
____ Renal dialysis with shunts
____ Renal disease
____ Rheumatic heart disease
____ Systemic lupus erythematosus
____ Systemic-pulmonary artery shunt
____ Other: ____

Treatment to be performed on this patient includes:

____ Oral surgical procedures
____ Extractions
____ Endodontic treatment (root canal)
____ Deep scaling (with some removal of epithelial tissue)
____ Dental radiographs (x-rays)
____ Use of magnetostrictive ultrasonic devices
____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
____ Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

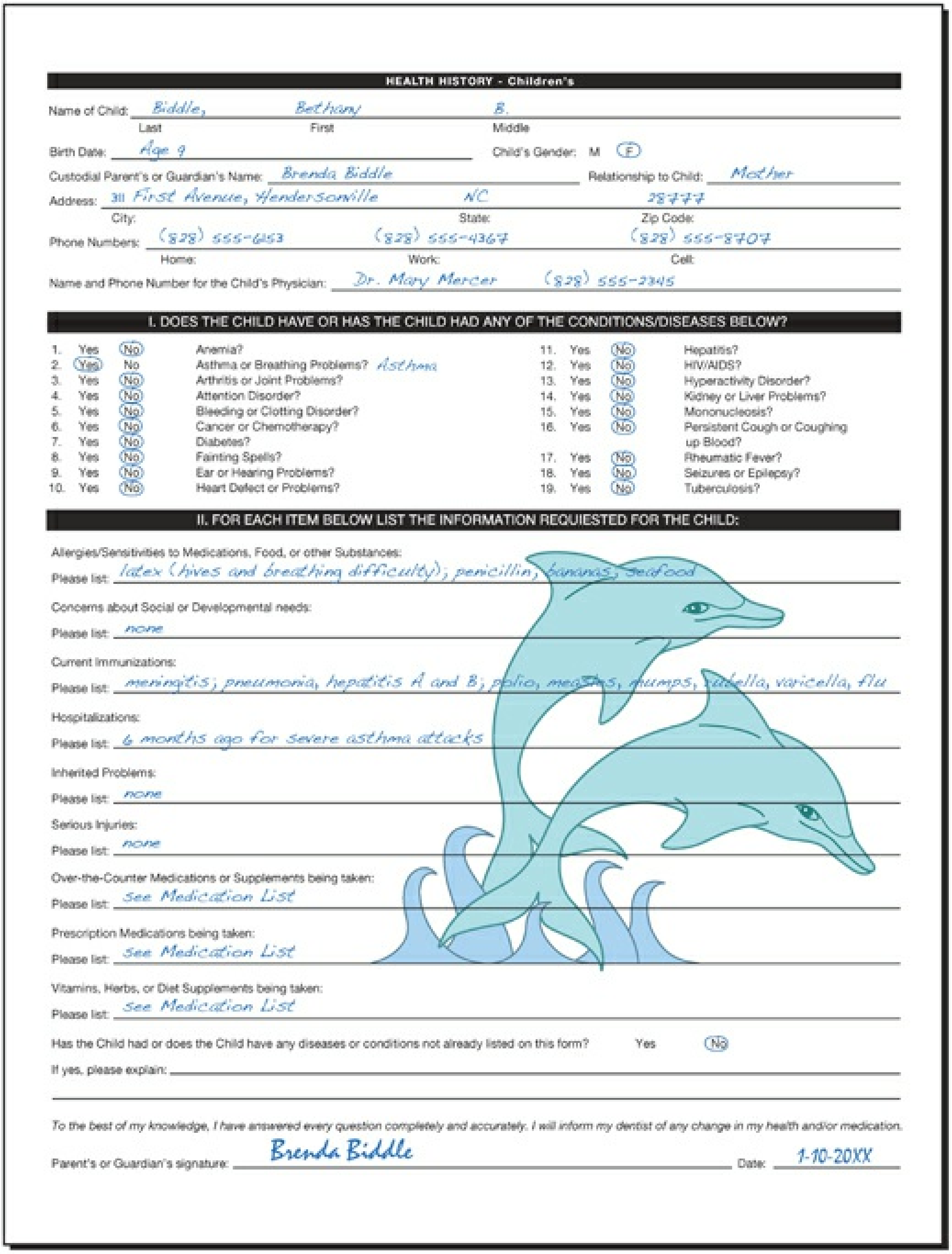
Most patients experience the following with the above planned procedures:

____ Minimal bleeding with transient bacteria
____ Prolonged bleeding
____ Stress and anxiety: ___ Low ___ Moderate ___ High
____ Other: ____
____ Appointment length: ____
____ Number and frequency of appointments: ____
____
____

____
Dentist's Signature

____
Date

FIGURE 5-9 Page 1 of medical consultation request for Mr. Ascari (if needed).



HEALTH HISTORY - Children's

Name of Child: Biddle, Bethany B.
Last First Middle

Birth Date: Age 9 Child's Gender: M [✓ F]

Custodial Parent's or Guardian's Name: Brenda Biddle Relationship to Child: Mother

Address: 311 First Avenue, Hendersonville NC 28777
City: State: Zip Code:

Phone Numbers: (828) 555-6153 (828) 555-4367 (828) 555-8707
Home: Work: Cell:

Name and Phone Number for the Child's Physician: Dr. Mary Mercer (828) 555-2345

I. DOES THE CHILD HAVE OR HAS THE CHILD HAD ANY OF THE CONDITIONS/DISEASES BELOW?

1.	Yes [✓ No]	Anemia?	11.	Yes [✓ No]	Hepatitis?
2.	[✓ Yes] No	Asthma or Breathing Problems? Asthma	12.	Yes [✓ No]	HIV/AIDS?
3.	Yes [✓ No]	Arthritis or Joint Problems?	13.	Yes [✓ No]	Hyperactivity Disorder?
4.	Yes [✓ No]	Attention Disorder?	14.	Yes [✓ No]	Kidney or Liver Problems?
5.	Yes [✓ No]	Bleeding or Clotting Disorder?	15.	Yes [✓ No]	Mononucleosis?
6.	Yes [✓ No]	Cancer or Chemotherapy?	16.	Yes [✓ No]	Persistent Cough or Coughing up Blood?
7.	Yes [✓ No]	Diabetes?			
8.	Yes [✓ No]	Fainting Spells?	17.	Yes [✓ No]	Rheumatic Fever?
9.	Yes [✓ No]	Ear or Hearing Problems?	18.	Yes [✓ No]	Seizures or Epilepsy?
10.	Yes [✓ No]	Heart Defect or Problems?	19.	Yes [✓ No]	Tuberculosis?

II. FOR EACH ITEM BELOW LIST THE INFORMATION REQUIESTED FOR THE CHILD:

Allergies/Sensitivities to Medications, Food, or other Substances:
Please list: latex (hives and breathing difficulty); penicillin, bananas, seafood

Concerns about Social or Developmental needs:
Please list: none

Current Immunizations:
Please list: meningitis; pneumonia, hepatitis A and B; polio, measles, mumps, rubella, varicella, flu

Hospitalizations:
Please list: 6 months ago for severe asthma attacks

Inherited Problems:
Please list: none

Serious Injuries:
Please list: none

Over-the-Counter Medications or Supplements being taken:
Please list: See Medication List

Prescription Medications being taken:
Please list: See Medication List

Vitamins, Herbs, or Diet Supplements being taken:
Please list: See Medication List

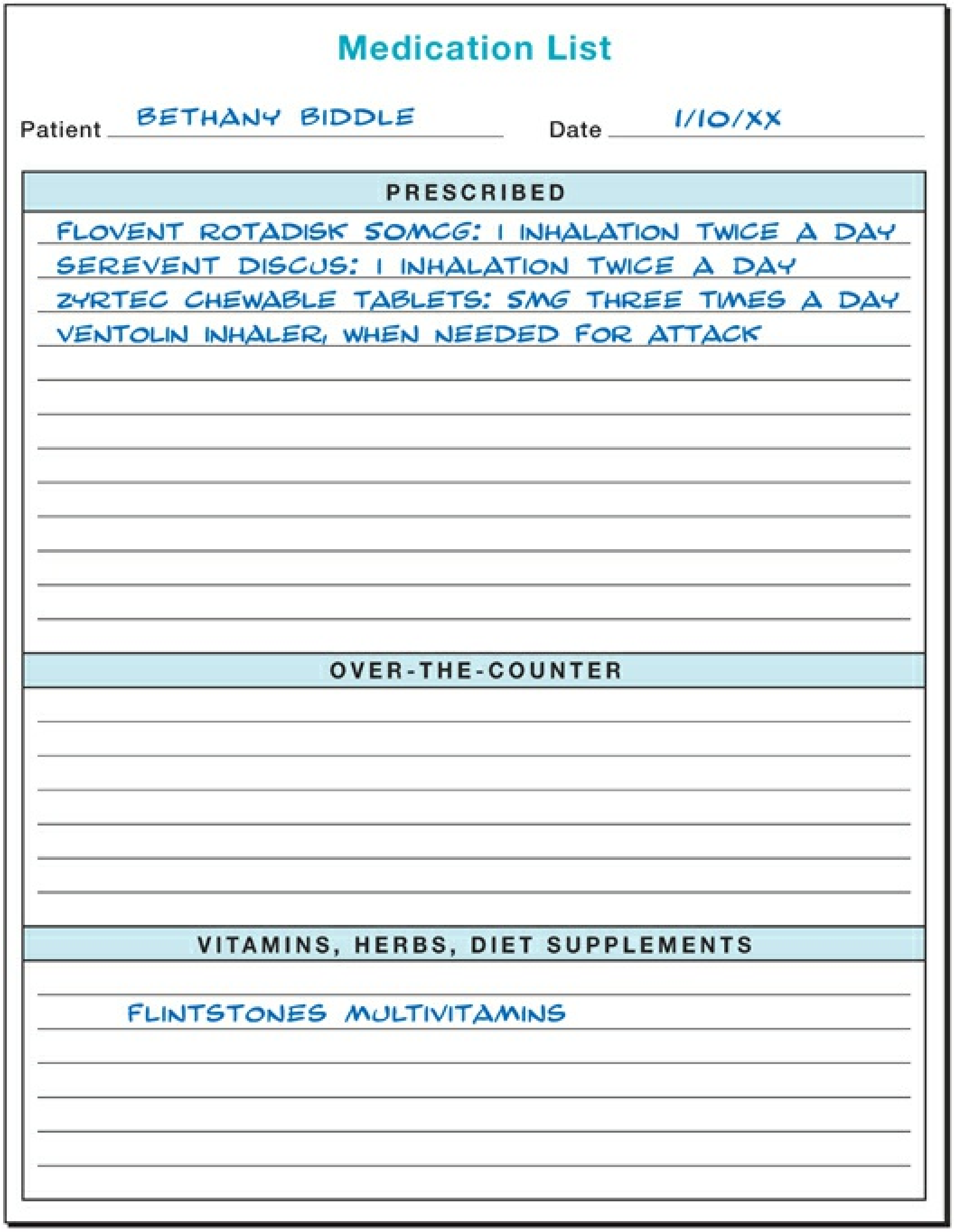
Has the Child had or does the Child have any diseases or conditions not already listed on this form? Yes [✓ No]

If yes, please explain:

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

Parent's or Guardian's signature: Brenda Biddle Date: 1-10-20XX

FIGURE 5-10 Health history form for fictitious patient Bethany Biddle.



Medication List

Patient BETHANY BIDDLE Date 1/10/XX

PRESCRIBED

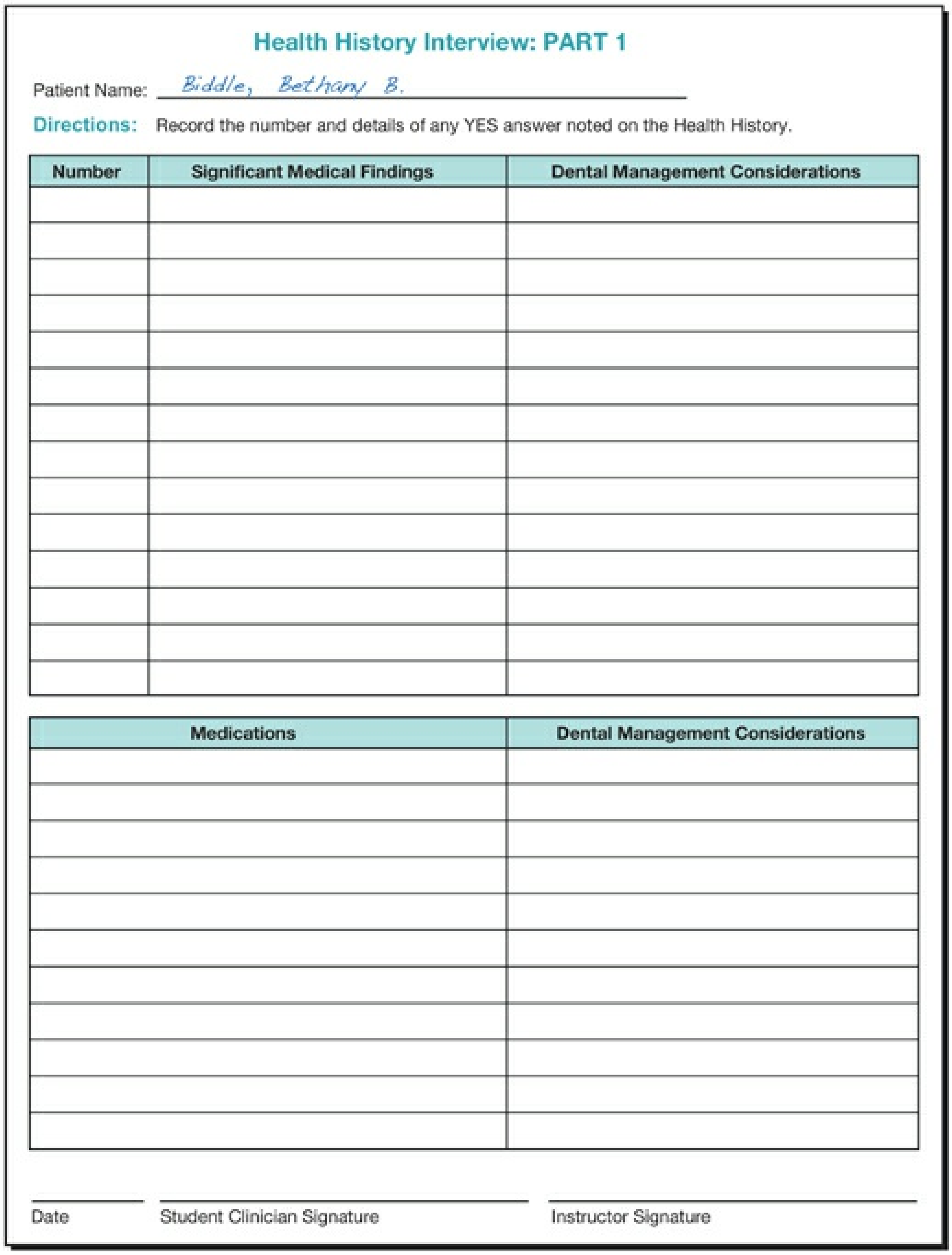
FLOVENT ROTADISK 50MCG: 1 INHALATION TWICE A DAY
SEREVENT DISCUS: 1 INHALATION TWICE A DAY
ZYRTEC CHEWABLE TABLETS: 5MG THREE TIMES A DAY
VENTOLIN INHALER, WHEN NEEDED FOR ATTACK

OVER-THE-COUNTER

VITAMINS, HERBS, DIET SUPPLEMENTS

FLINTSTONES MULTIVITAMINS

FIGURE 5-11 Medication list for fictitious patient Bethany Biddle.



Health History Interview: PART 1

Patient Name: Biddle, Bethany B.

Directions: Record the number and details of any YES answer noted on the Health History.

Number	Significant Medical Findings	Dental Management Considerations

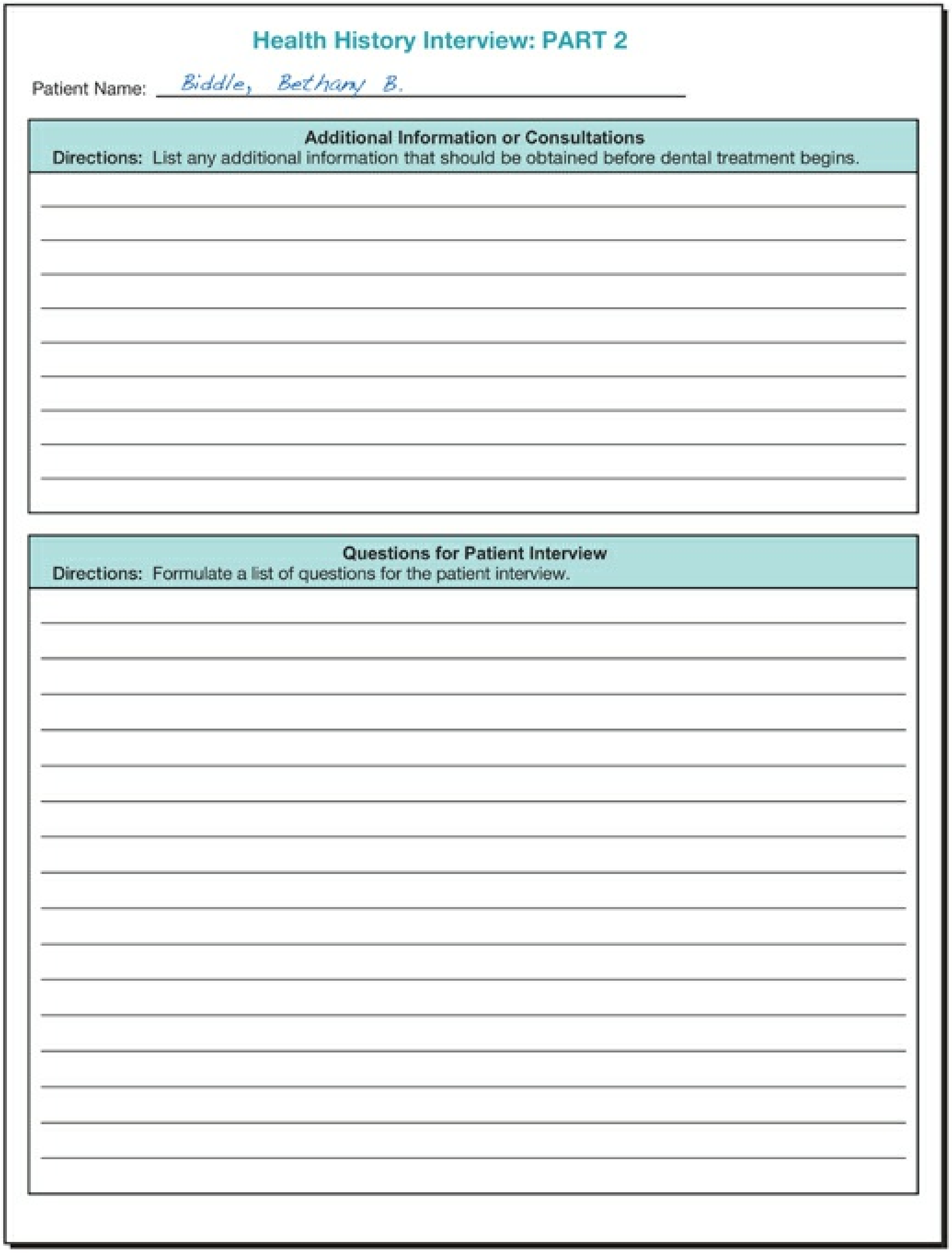
Medications	Dental Management Considerations

Date

Student Clinician Signature

Instructor Signature

FIGURE 5-12A Bethany Biddle: health history synopsis part 1.



Health History Interview: PART 2

Patient Name: Biddle, Bethany B.

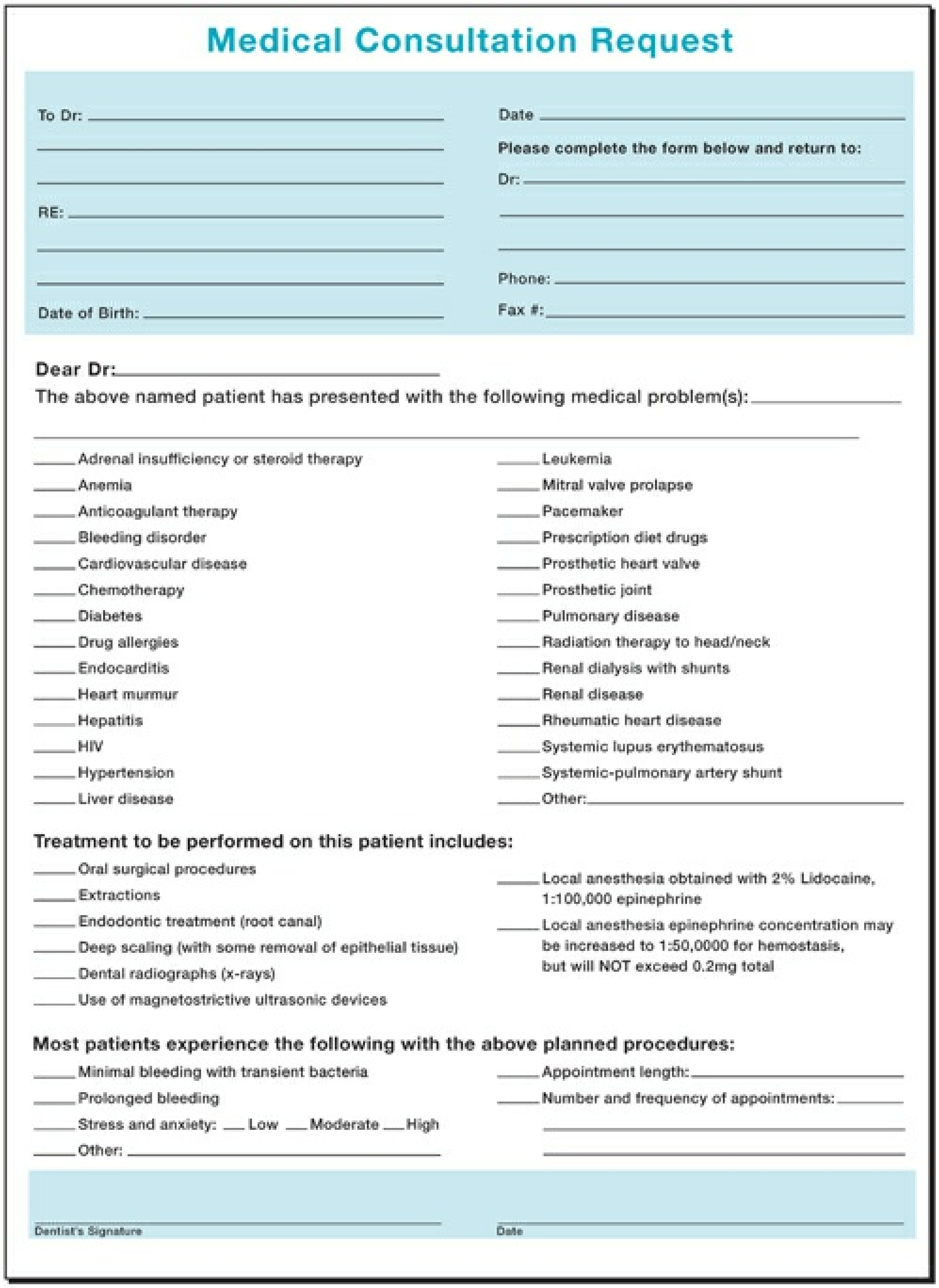
Additional Information or Consultations

Directions: List any additional information that should be obtained before dental treatment begins.

Questions for Patient Interview

Directions: Formulate a list of questions for the patient interview.

FIGURE 5-12B Bethany Biddle: health history synopsis part 2.



Medical Consultation Request

To Dr: ____________________

____

____

RE: ____________________

____

____

Date of Birth: ____________________

Date ____________________

Please complete the form below and return to:

Dr: ____________________

____

____

Phone: ____________________

Fax #: ____________________

Dear Dr: ____________________

The above named patient has presented with the following medical problem(s): ____________________

____

_____ Adrenal insufficiency or steroid therapy
_____ Anemia
_____ Anticoagulant therapy
_____ Bleeding disorder
_____ Cardiovascular disease
_____ Chemotherapy
_____ Diabetes
_____ Drug allergies
_____ Endocarditis
_____ Heart murmur
_____ Hepatitis
_____ HIV
_____ Hypertension
_____ Liver disease
_____ Leukemia
_____ Mitral valve prolapse
_____ Pacemaker
_____ Prescription diet drugs
_____ Prosthetic heart valve
_____ Prosthetic joint
_____ Pulmonary disease
_____ Radiation therapy to head/neck
_____ Renal dialysis with shunts
_____ Renal disease
_____ Rheumatic heart disease
_____ Systemic lupus erythematosus
_____ Systemic-pulmonary artery shunt
_____ Other: ____________________

Treatment to be performed on this patient includes:

_____ Oral surgical procedures
_____ Extractions
_____ Endodontic treatment (root canal)
_____ Deep scaling (with some removal of epithelial tissue)
_____ Dental radiographs (x-rays)
_____ Use of magnetostrictive ultrasonic devices
_____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
_____ Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

Most patients experience the following with the above planned procedures:

_____ Minimal bleeding with transient bacteria
_____ Prolonged bleeding
_____ Stress and anxiety: ___ Low ___ Moderate ___ High
_____ Other: ____________________
_____ Appointment length: ____________________
_____ Number and frequency of appointments: ____________________

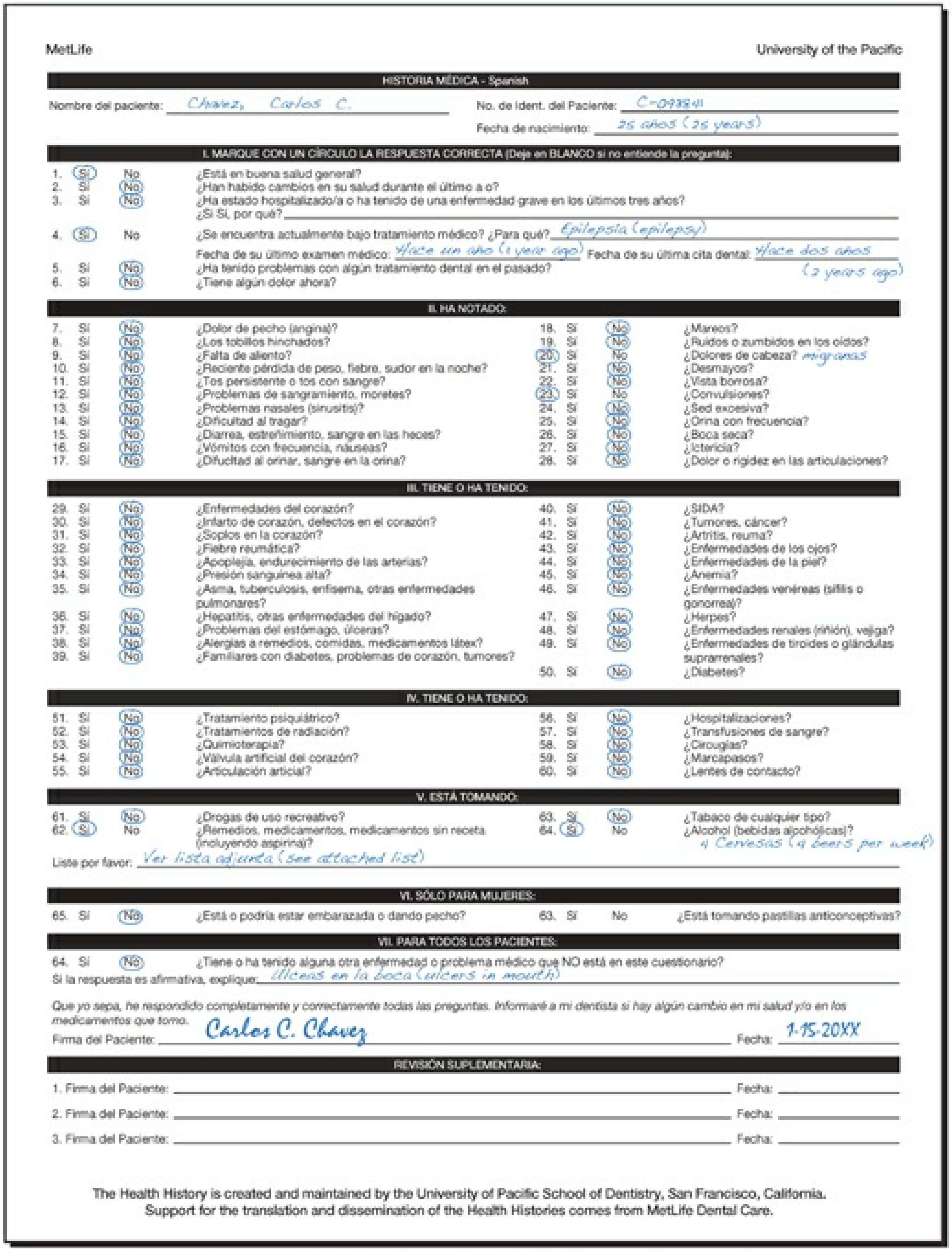
____

____

____
Dentist's Signature

____
Date

FIGURE 5-13 Page 1 of medical consultation request for Bethany Biddle (if needed).



MetLife University of the Pacific

HISTORIA MÉDICA - Spanish

Nombre del paciente: Chavez, Carlos C.

No. de Ident. del Paciente: C-093841

Fecha de nacimiento: 25 años (25 years)

I. MARQUE CON UN CÍRCULO LA RESPUESTA CORRECTA (Deje en BLANCO si no entiende la pregunta):

1.	[✓ Sí]	No	¿Está en buena salud general?
2.	Sí	[✓ No]	¿Han habido cambios en su salud durante el último a o?
3.	Sí	[✓ No]	¿Ha estado hospitalizado/a o ha tenido de una enfermedad grave en los últimos tres años? ¿Si Sí, por qué?
4.	[✓ Sí]	No	¿Se encuentra actualmente bajo tratamiento médico? ¿Para qué? Epilepsia (epilepsy) Fecha de su último examen médico: Hace un año (1 year ago) Fecha de su última cita dental: Hace dos años (2 years ago)
5.	Sí	[✓ No]	¿Ha tenido problemas con algún tratamiento dental en el pasado?
6.	Sí	[✓ No]	¿Tiene algún dolor ahora?

II. HA NOTADO:

7.	Sí	[✓ No]	¿Dolor de pecho (angina)?	18.	Sí	[✓ No]	¿Mareos?
8.	Sí	[✓ No]	¿Los tobillos hinchados?	19.	Sí	[✓ No]	¿Ruidos o zumbidos en los oídos?
9.	Sí	[✓ No]	¿Falta de aliento?	[✓ 20.]	Sí	No	¿Dolores de cabeza? migranas
10.	Sí	[✓ No]	¿Reciente pérdida de peso, fiebre, sudor en la noche?	21.	Sí	[✓ No]	¿Desmayos?
11.	Sí	[✓ No]	¿Tos persistente o tos con sangre?	22.	Sí	[✓ No]	¿Vista borrosa?
12.	Sí	[✓ No]	¿Problemas de sangramiento, moretes?	[✓ 23.]	Sí	No	¿Convulsiones?
13.	Sí	[✓ No]	¿Problemas nasales (sinusitis)?	24.	Sí	[✓ No]	¿Sed excesiva?
14.	Sí	[✓ No]	¿Dificultad al tragar?	25.	Sí	[✓ No]	¿Orina con frecuencia?
15.	Sí	[✓ No]	¿Diarrea, estreñimiento, sangre en las heces?	26.	Sí	[✓ No]	¿Boca seca?
16.	Sí	[✓ No]	¿Vómitos con frecuencia, náuseas?	27.	Sí	[✓ No]	¿Ictericia?
17.	Sí	[✓ No]	¿Difucltad al orinar, sangre en la orina?	28.	Sí	[✓ No]	¿Dolor o rigidez en las articulaciones?

III. TIENE O HA TENIDO:

29.	Sí	[✓ No]	¿Enfermedades del corazón?	40.	Sí	[✓ No]	¿SIDA?
30.	Sí	[✓ No]	¿Infarto de corazón, defectos en el corazón?	41.	Sí	[✓ No]	¿Tumores, cáncer?
31.	Sí	[✓ No]	¿Soplos en la corazón?	42.	Sí	[✓ No]	¿Artritis, reuma?
32.	Sí	[✓ No]	¿Fiebre reumática?	43.	Sí	[✓ No]	¿Enfermedades de los ojos?
33.	Sí	[✓ No]	¿Apoplejía, endurecimiento de las arterias?	44.	Sí	[✓ No]	¿Enfermedades de la piel?
34.	Sí	[✓ No]	¿Presión sanguínea alta?	45.	Sí	[✓ No]	¿Anemia?
35.	Sí	[✓ No]	¿Asma, tuberculosis, enfisema, otras enfermedades pulmonares?	46.	Sí	[✓ No]	¿Enfermedades venéreas (sífilis o gonorrea)?
36.	Sí	[✓ No]	¿Hepatitis, otras enfermedades del hígado?	47.	Sí	[✓ No]	¿Herpes?
37.	Sí	[✓ No]	¿Problemas del estómago, úlceras?	48.	Sí	[✓ No]	¿Enfermedades renales (riñón), vejiga?
38.	Sí	[✓ No]	¿Alergias a remedios, comidas, medicamentos látex?	49.	Sí	[✓ No]	¿Enfermedades de tiroides o glándulas suprarrenales?
39.	Sí	[✓ No]	¿Familiares con diabetes, problemas de corazón, tumores?	50.	Sí	[✓ No]	¿Diabetes?

IV. TIENE O HA TENIDO:

51.	Sí	[✓ No]	¿Tratamiento psiquiátrico?	56.	Sí	[✓ No]	¿Hospitalizaciones?
52.	Sí	[✓ No]	¿Tratamientos de radiación?	57.	Sí	[✓ No]	¿Transfusiones de sangre?
53.	Sí	[✓ No]	¿Quimioterapia?	58.	Sí	[✓ No]	¿Cirougías?
54.	Sí	[✓ No]	¿Válvula artificial del corazón?	59.	Sí	[✓ No]	¿Marcapasos?
55.	Sí	[✓ No]	¿Articulación articial?	60.	Sí	[✓ No]	¿Lentes de contacto?

V. ESTÁ TOMANDO:

61.	Sí	[✓ No]	¿Drogas de uso recreativo?	63.	Sí	[✓ No]	¿Tabaco de cualquier tipo?
62.	[✓ Sí]	No	¿Remedios, medicamentos, medicamentos sin receta (incluyendo aspirina)?	64.	[✓ Sí]	No	¿Alcohol (bebidas alcohólicas)? 4 Cervesas (4 beers per week)

Liste por favor: Ver lista adjunta (see attached list)

VI. SÓLO PARA MUJERES:

65.	Sí	[✓ No]	¿Está o podría estar embarazada o dando pecho?	63.	Sí	No	¿Está tomando pastillas anticonceptivas?

VII. PARA TODOS LOS PACIENTES:

64.	Sí	[✓ No]	¿Tiene o ha tenido alguna otra enfermedad o problema médico que NO está en este cuestionario?

Si la respuesta es afirmativa, explique: Ulceas en la boca (ulcers in mouth)

Que yo sepa, he respondido completamente y correctamente todas las preguntas. Informaré a mi dentista si hay algún cambio en mi salud y/o en los medicamentos que tomo.

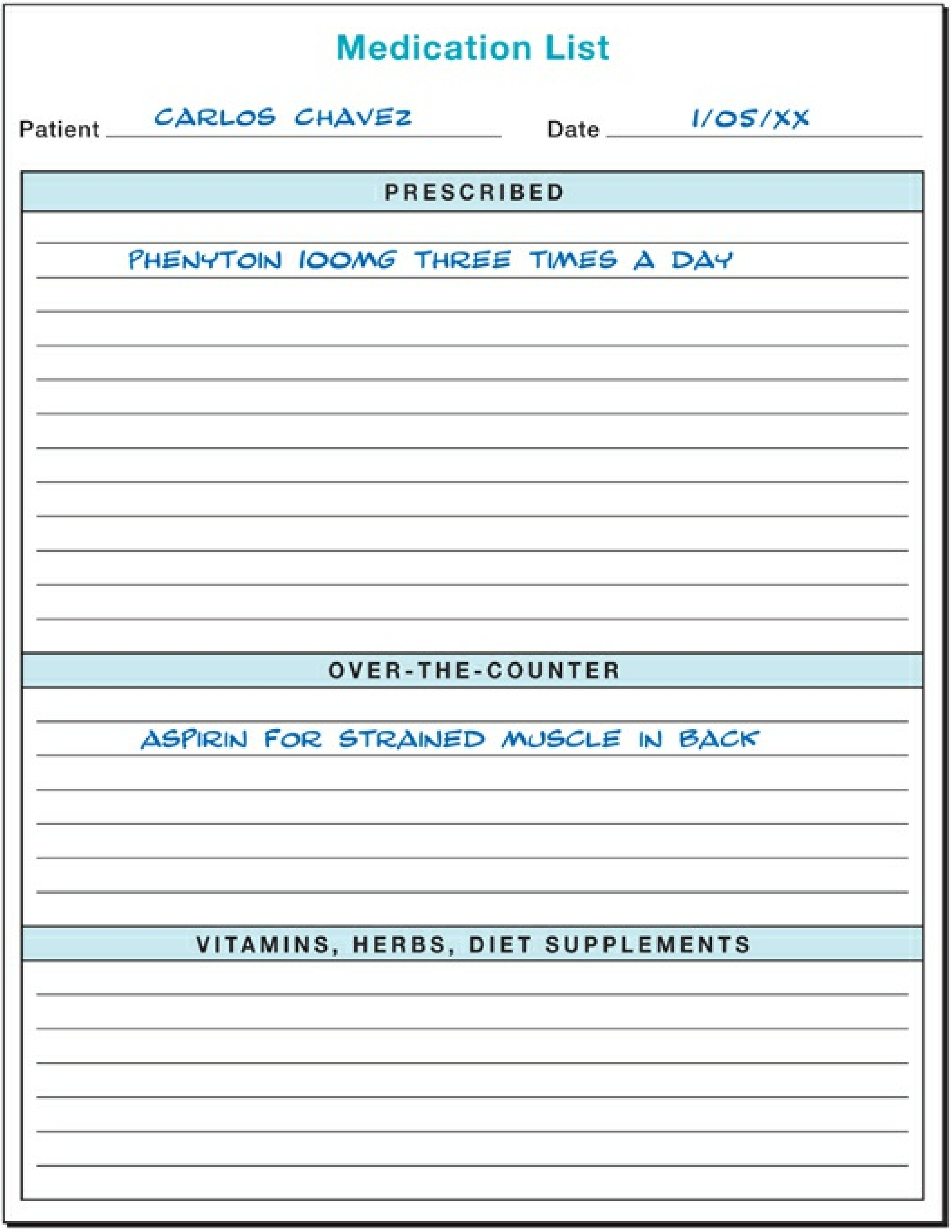
Firma del Paciente: Carlos C. Chavez Fecha: 1-15-20XX

REVISIÓN SUPLEMENTARIA:

1. Firma del Paciente: ____ Fecha: ____
2. Firma del Paciente: ____ Fecha: ____
3. Firma del Paciente: ____ Fecha: ____

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-14 The health history form for fictitious patient Mr. Chavez.



Medication List

Patient CARLOS CHAVEZ Date 1/05/XX

PRESCRIBED

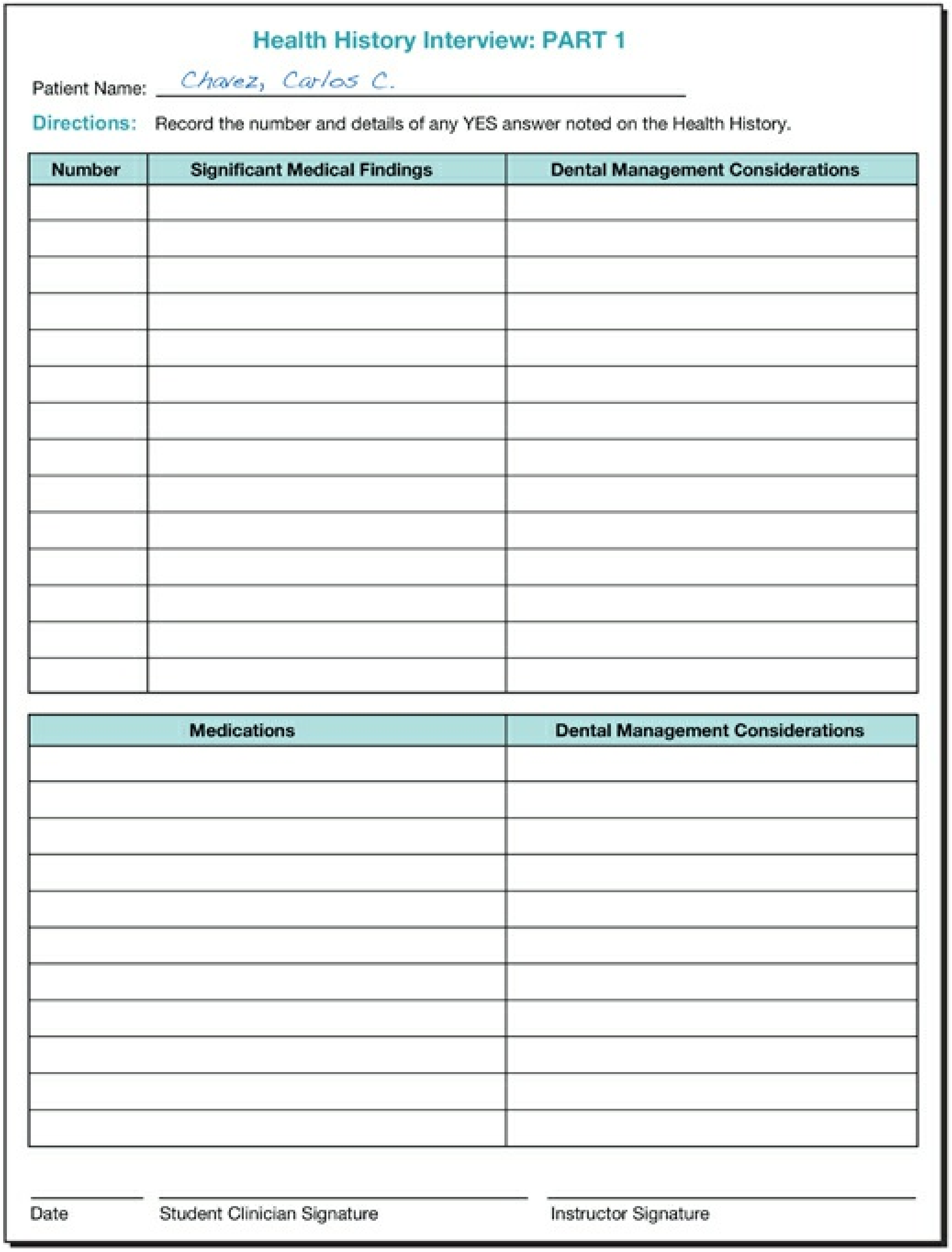
PHENYTOIN 100MG THREE TIMES A DAY

OVER-THE-COUNTER

ASPIRIN FOR STRAINED MUSCLE IN BACK

VITAMINS, HERBS, DIET SUPPLEMENTS

FIGURE 5-15 Medication list for fictitious patient Mr. Chavez.



Health History Interview: PART 1

Patient Name: Chavez, Carlos C.

Directions: Record the number and details of any YES answer noted on the Health History.

Number	Significant Medical Findings	Dental Management Considerations

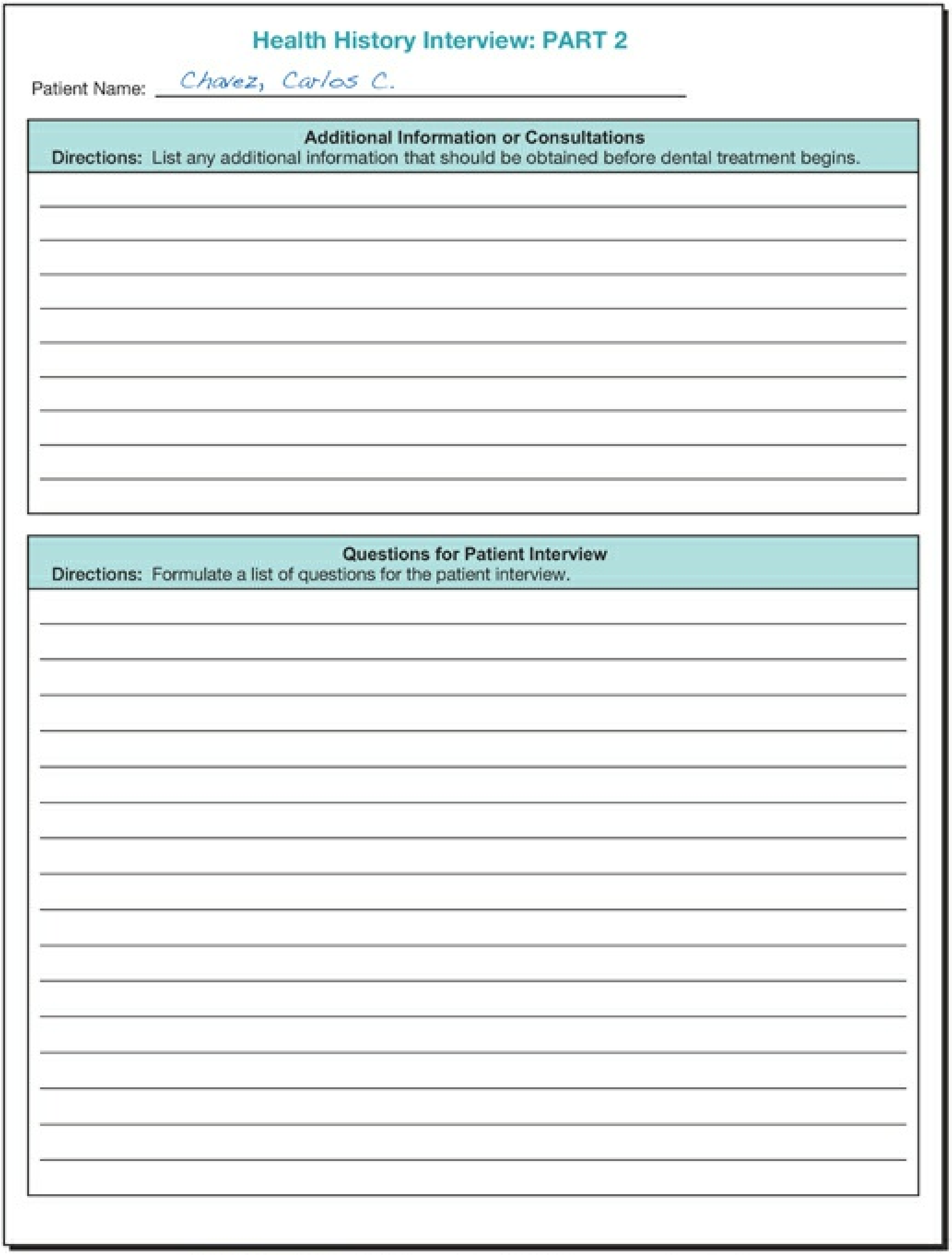
Medications	Dental Management Considerations

Date

Student Clinician Signature

Instructor Signature

FIGURE 5-16A Mr. Chavez: health history synopsis part 1.



Health History Interview: PART 2

Patient Name: Chavez, Carlos C.

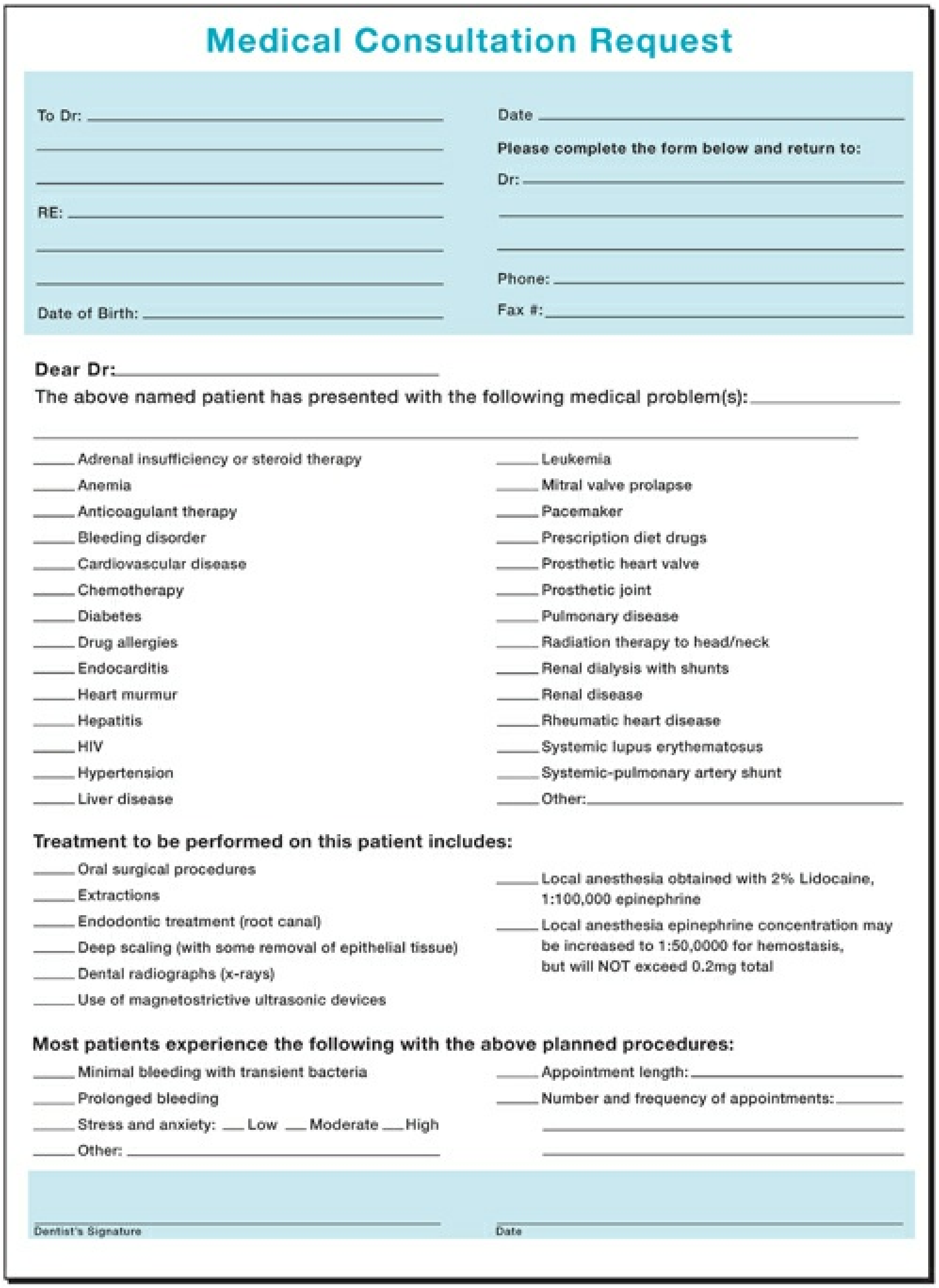
Additional Information or Consultations

Directions: List any additional information that should be obtained before dental treatment begins.

Questions for Patient Interview

Directions: Formulate a list of questions for the patient interview.

FIGURE 5-16B Mr. Chavez: health history synopsis part 2.



Medical Consultation Request

To Dr: ______________________________

____

____

RE: ______________________________

____

____

Date of Birth: ______________________

Date ______________________________

Please complete the form below and return to:

Dr: ______________________________

____

____

Phone: ______________________________

Fax #: ______________________________

Dear Dr:______________________

The above named patient has presented with the following medical problem(s):____________

____

____ Adrenal insufficiency or steroid therapy
____ Anemia
____ Anticoagulant therapy
____ Bleeding disorder
____ Cardiovascular disease
____ Chemotherapy
____ Diabetes
____ Drug allergies
____ Endocarditis
____ Heart murmur
____ Hepatitis
____ HIV
____ Hypertension
____ Liver disease
____ Leukemia
____ Mitral valve prolapse
____ Pacemaker
____ Prescription diet drugs
____ Prosthetic heart valve
____ Prosthetic joint
____ Pulmonary disease
____ Radiation therapy to head/neck
____ Renal dialysis with shunts
____ Renal disease
____ Rheumatic heart disease
____ Systemic lupus erythematosus
____ Systemic-pulmonary artery shunt
____ Other:______________________

Treatment to be performed on this patient includes:

____ Oral surgical procedures
____ Extractions
____ Endodontic treatment (root canal)
____ Deep scaling (with some removal of epithelial tissue)
____ Dental radiographs (x-rays)
____ Use of magnetostrictive ultrasonic devices
____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
____ Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

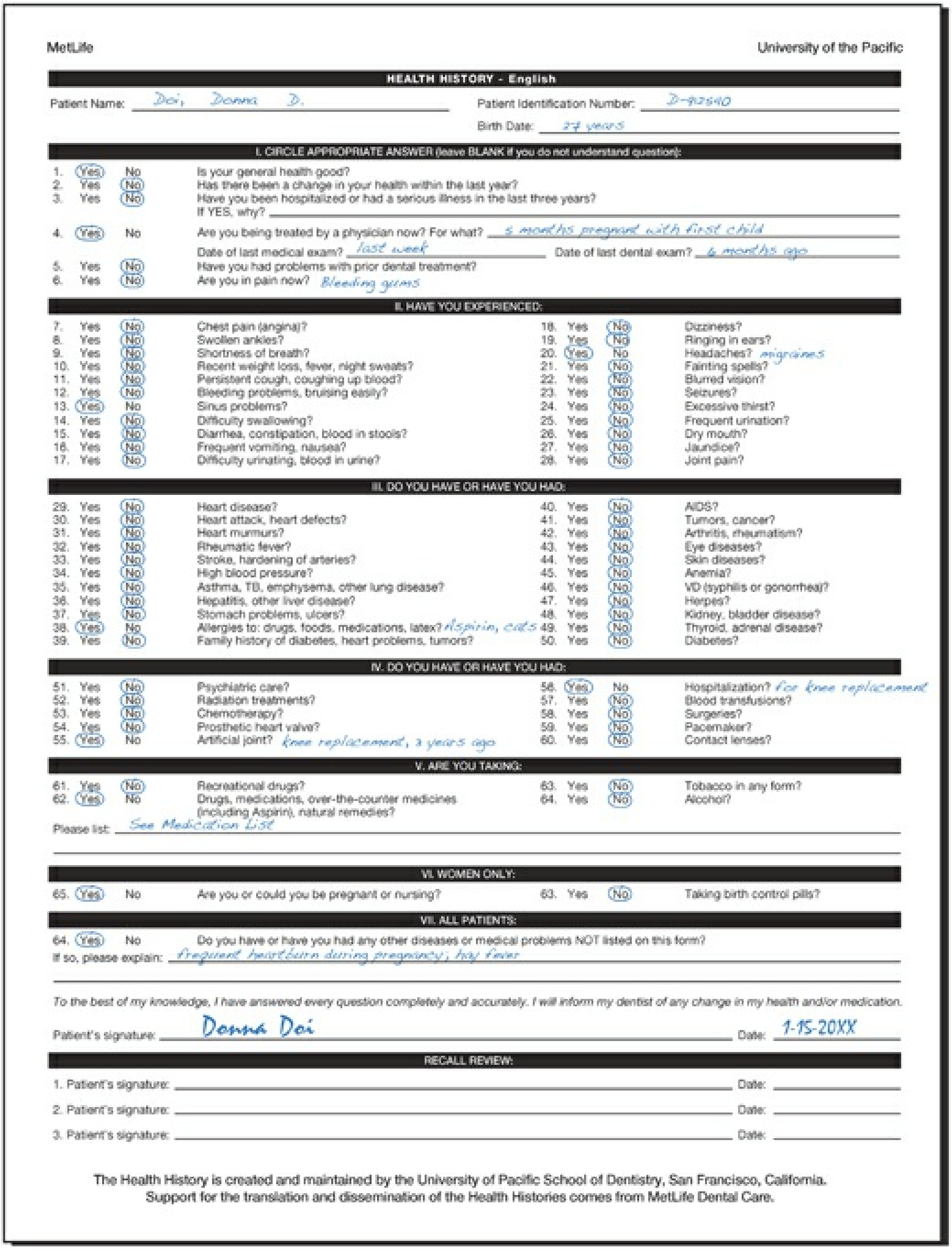
Most patients experience the following with the above planned procedures:

____ Minimal bleeding with transient bacteria
____ Prolonged bleeding
____ Stress and anxiety: ___ Low ___ Moderate ___ High
____ Other: ______________________
____ Appointment length: ______________________
____ Number and frequency of appointments:____________
____
____

____
Dentist's Signature

____
Date

FIGURE 5-17 Page 1 of medical consultation request for Mr. Chavez (if needed).



MetLife University of the Pacific

HEALTH HISTORY - English

Patient Name: Doi, Donna D.
Patient Identification Number: D-92540
Birth Date: 27 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1.	[✓ Yes] No	Is your general health good?
2.	Yes [✓ No]	Has there been a change in your health within the last year?
3.	Yes [✓ No]	Have you been hospitalized or had a serious illness in the last three years? If YES, why?
4.	[✓ Yes] No	Are you being treated by a physician now? For what? 5 months pregnant with first child Date of last medical exam? last week Date of last dental exam? 6 months ago
5.	Yes [✓ No]	Have you had problems with prior dental treatment?
6.	Yes [✓ No]	Are you in pain now? Bleeding gums

II. HAVE YOU EXPERIENCED:

7.	Yes [✓ No]	Chest pain (angina)?	18.	Yes [✓ No]	Dizziness?
8.	Yes [✓ No]	Swollen ankles?	19.	Yes [✓ No]	Ringing in ears?
9.	Yes [✓ No]	Shortness of breath?	20.	[✓ Yes] No	Headaches? migraines
10.	Yes [✓ No]	Recent weight loss, fever, night sweats?	21.	Yes [✓ No]	Fainting spells?
11.	Yes [✓ No]	Persistent cough, coughing up blood?	22.	Yes [✓ No]	Blurred vision?
12.	Yes [✓ No]	Bleeding problems, bruising easily?	23.	Yes [✓ No]	Seizures?
13.	[✓ Yes] No	Sinus problems?	24.	Yes [✓ No]	Excessive thirst?
14.	Yes [✓ No]	Difficulty swallowing?	25.	Yes [✓ No]	Frequent urination?
15.	Yes [✓ No]	Diarrhea, constipation, blood in stools?	26.	Yes [✓ No]	Dry mouth?
16.	Yes [✓ No]	Frequent vomiting, nausea?	27.	Yes [✓ No]	Jaundice?
17.	Yes [✓ No]	Difficulty urinating, blood in urine?	28.	Yes [✓ No]	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes [✓ No]	Heart disease?	40.	Yes [✓ No]	AIDS?
30.	Yes [✓ No]	Heart attack, heart defects?	41.	Yes [✓ No]	Tumors, cancer?
31.	Yes [✓ No]	Heart murmurs?	42.	Yes [✓ No]	Arthritis, rheumatism?
32.	Yes [✓ No]	Rheumatic fever?	43.	Yes [✓ No]	Eye diseases?
33.	Yes [✓ No]	Stroke, hardening of arteries?	44.	Yes [✓ No]	Skin diseases?
34.	Yes [✓ No]	High blood pressure?	45.	Yes [✓ No]	Anemia?
35.	Yes [✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes [✓ No]	VD (syphilis or gonorrhea)?
36.	Yes [✓ No]	Hepatitis, other liver disease?	47.	Yes [✓ No]	Herpes?
37.	Yes [✓ No]	Stomach problems, ulcers?	48.	Yes [✓ No]	Kidney, bladder disease?
38.	[✓ Yes] No	Allergies to: drugs, foods, medications, latex? Aspirin, cats	49.	Yes [✓ No]	Thyroid, adrenal disease?
39.	Yes [✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes [✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes [✓ No]	Psychiatric care?	56.	[✓ Yes] No	Hospitalization? for knee replacement
52.	Yes [✓ No]	Radiation treatments?	57.	Yes [✓ No]	Blood transfusions?
53.	Yes [✓ No]	Chemotherapy?	58.	Yes [✓ No]	Surgeries?
54.	Yes [✓ No]	Prosthetic heart valve?	59.	Yes [✓ No]	Pacemaker?
55.	[✓ Yes] No	Artificial joint? knee replacement, 3 years ago	60.	Yes [✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes [✓ No]	Recreational drugs?	63.	Yes [✓ No]	Tobacco in any form?
62.	[✓ Yes] No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes [✓ No]	Alcohol?

Please list: See Medication List

VI. WOMEN ONLY:

65.	[✓ Yes] No	Are you or could you be pregnant or nursing?	63.	Yes [✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64. [✓ Yes] No Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain: frequent heartburn during pregnancy; hay fever

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

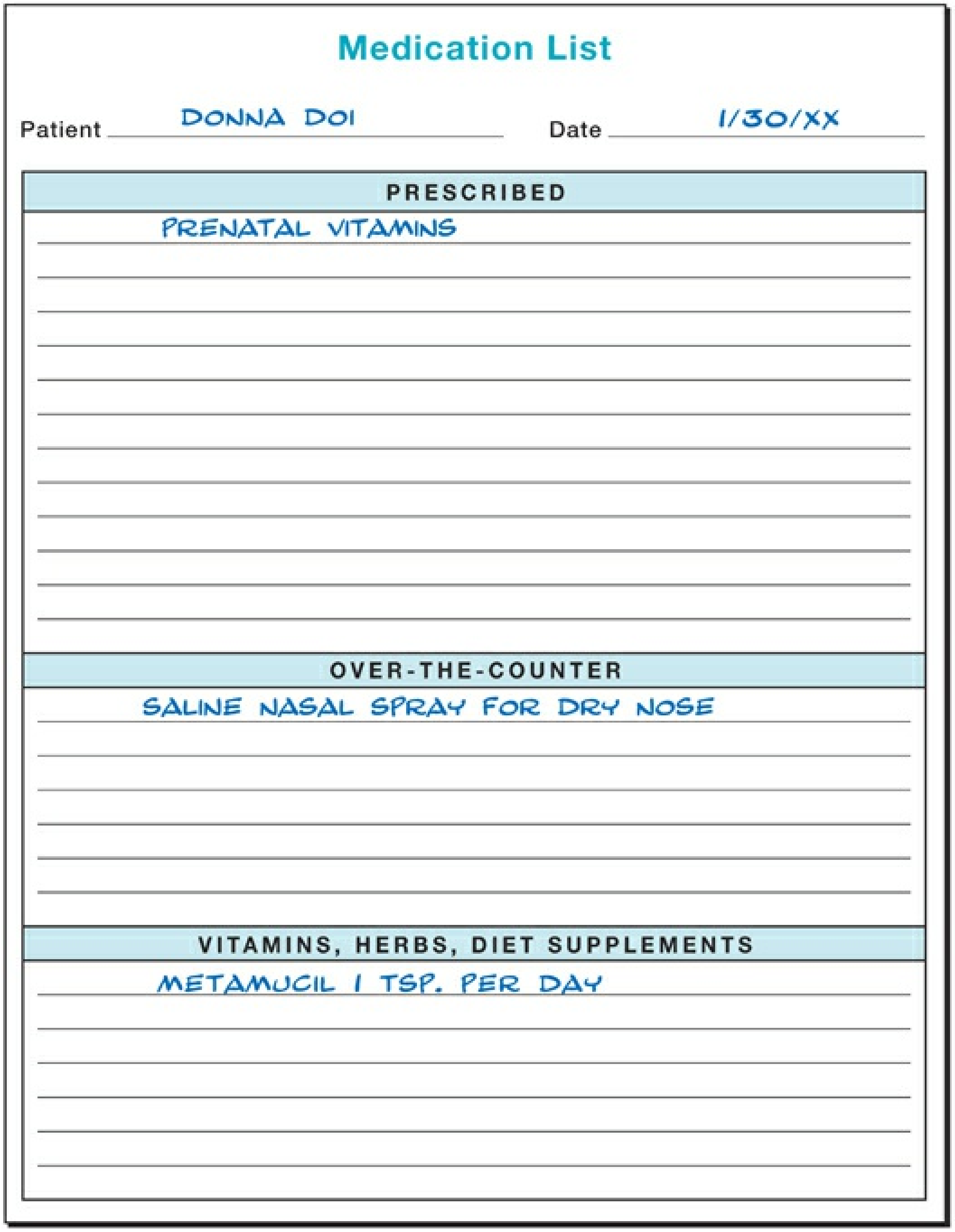
Patient's signature: Donna Doi Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: Date:
2. Patient's signature: Date:
3. Patient's signature: Date:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-18 The health history form for fictitious patient Mrs. Doi.



Medication List

Patient DONNA DOI Date 1/30/XX

PRESCRIBED

PRENATAL VITAMINS

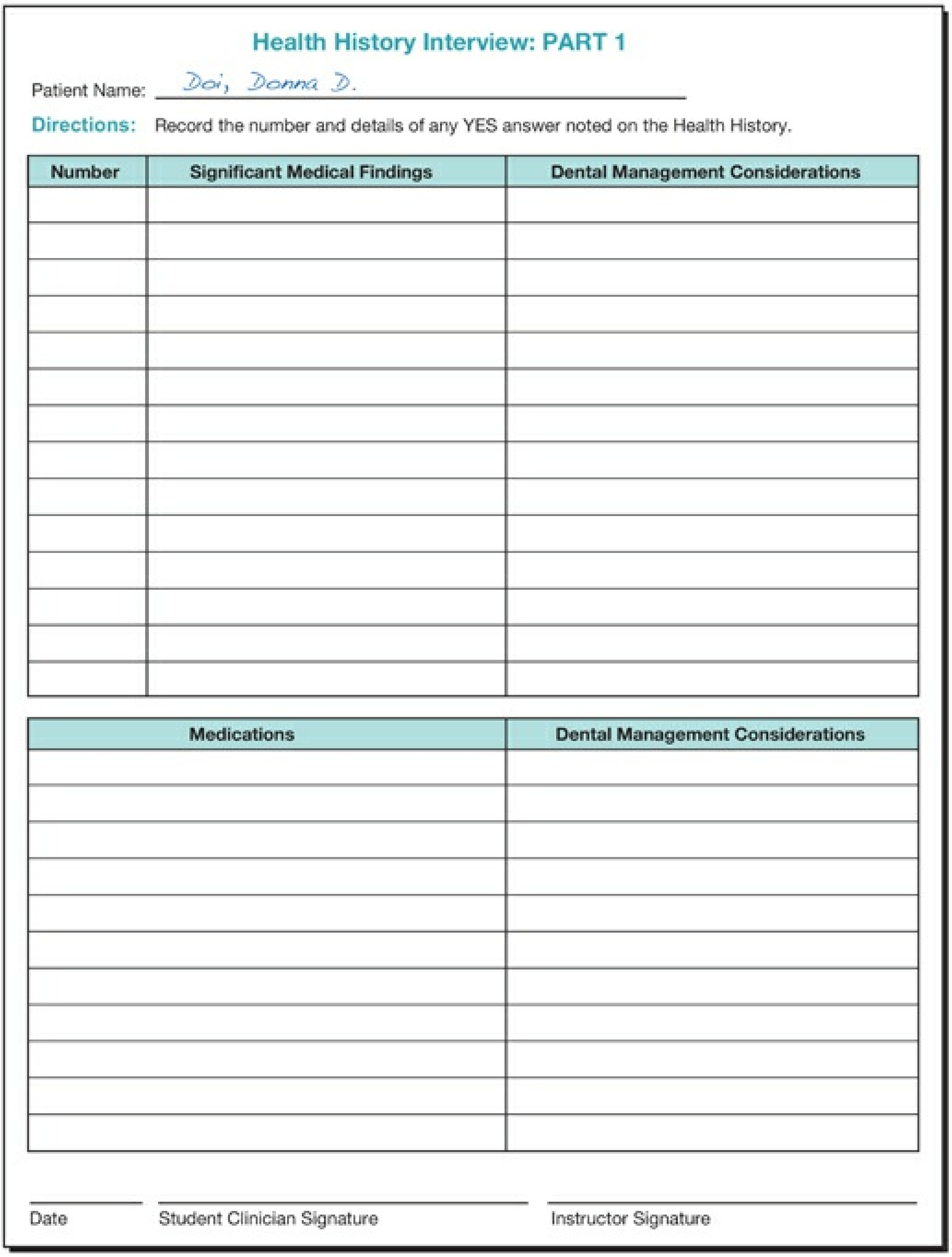
OVER-THE-COUNTER

SALINE NASAL SPRAY FOR DRY NOSE

VITAMINS, HERBS, DIET SUPPLEMENTS

METAMUCIL 1 TSP. PER DAY

FIGURE 5-19 Medication list for fictitious patient Mrs. Doi.



Health History Interview: PART 1

Patient Name: Doi, Donna D.

Directions: Record the number and details of any YES answer noted on the Health History.

Number	Significant Medical Findings	Dental Management Considerations

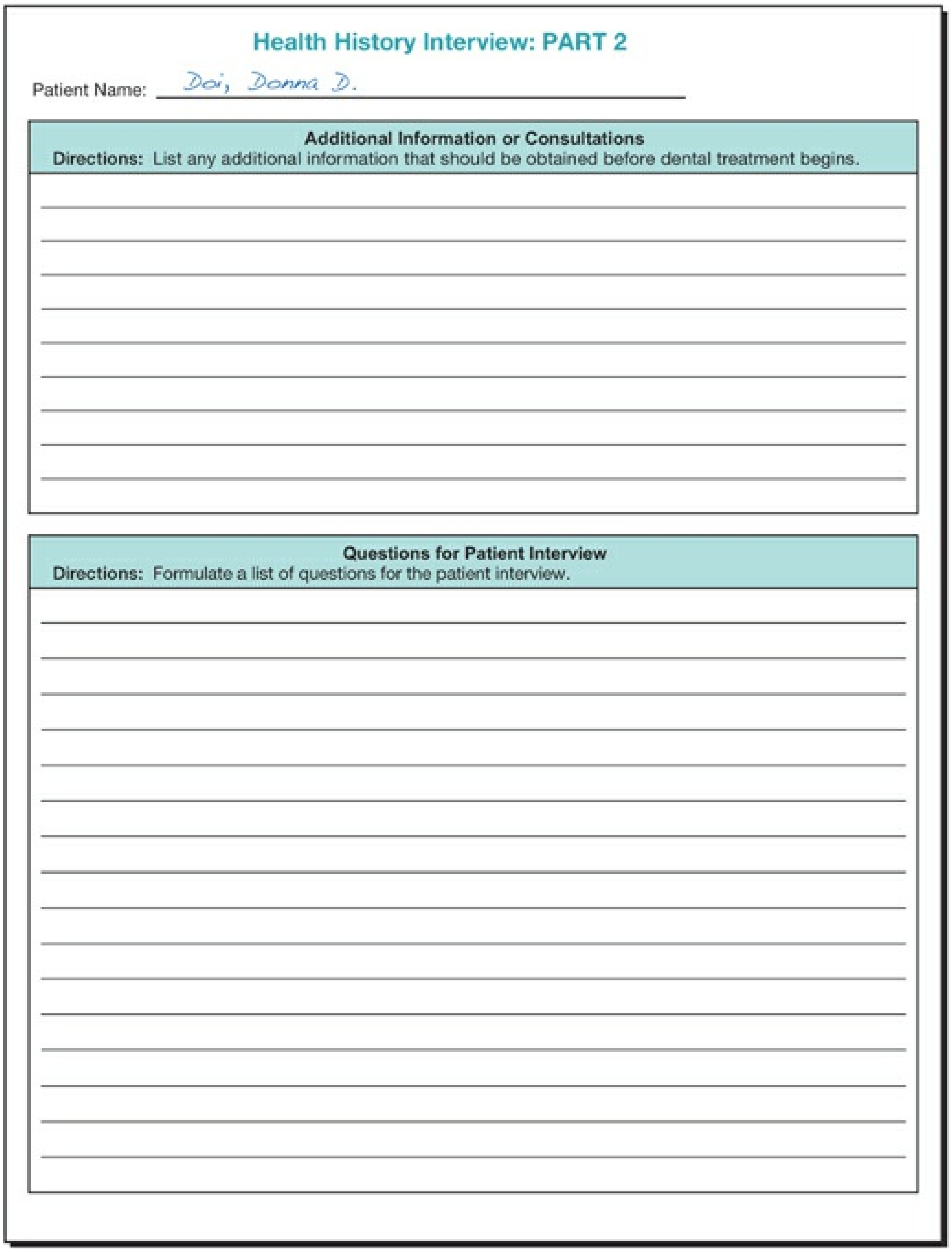
Medications	Dental Management Considerations

Date

Student Clinician Signature

Instructor Signature

FIGURE 5-20A Mrs. Doi: health history synopsis part 1.



Health History Interview: PART 2

Patient Name: Doi, Donna D.

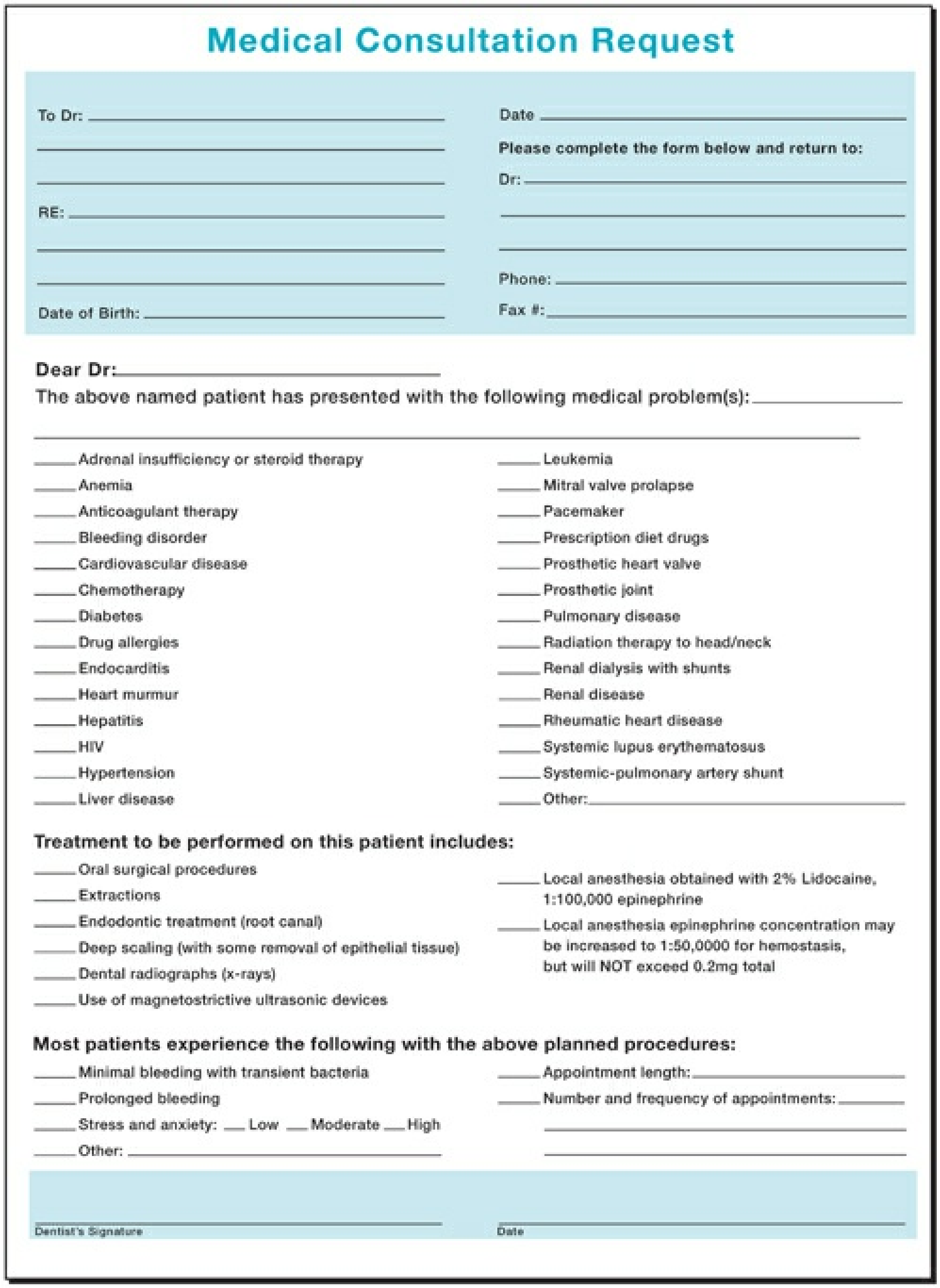
Additional Information or Consultations

Directions: List any additional information that should be obtained before dental treatment begins.

Questions for Patient Interview

Directions: Formulate a list of questions for the patient interview.

FIGURE 5-20B **Mrs. Doi: health history synopsis part 2.**



Medical Consultation Request

To Dr: ______________________

____

____

RE: ______________________

____

____

Date of Birth: ______________________

Date ______________________

Please complete the form below and return to:

Dr: ______________________

____

____

Phone: ______________________

Fax #: ______________________

Dear Dr: ______________________

The above named patient has presented with the following medical problem(s): ______________________

____

_____ Adrenal insufficiency or steroid therapy
_____ Anemia
_____ Anticoagulant therapy
_____ Bleeding disorder
_____ Cardiovascular disease
_____ Chemotherapy
_____ Diabetes
_____ Drug allergies
_____ Endocarditis
_____ Heart murmur
_____ Hepatitis
_____ HIV
_____ Hypertension
_____ Liver disease
_____ Leukemia
_____ Mitral valve prolapse
_____ Pacemaker
_____ Prescription diet drugs
_____ Prosthetic heart valve
_____ Prosthetic joint
_____ Pulmonary disease
_____ Radiation therapy to head/neck
_____ Renal dialysis with shunts
_____ Renal disease
_____ Rheumatic heart disease
_____ Systemic lupus erythematosus
_____ Systemic-pulmonary artery shunt
_____ Other: ______________________

Treatment to be performed on this patient includes:

_____ Oral surgical procedures
_____ Extractions
_____ Endodontic treatment (root canal)
_____ Deep scaling (with some removal of epithelial tissue)
_____ Dental radiographs (x-rays)
_____ Use of magnetostrictive ultrasonic devices
_____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
_____ Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

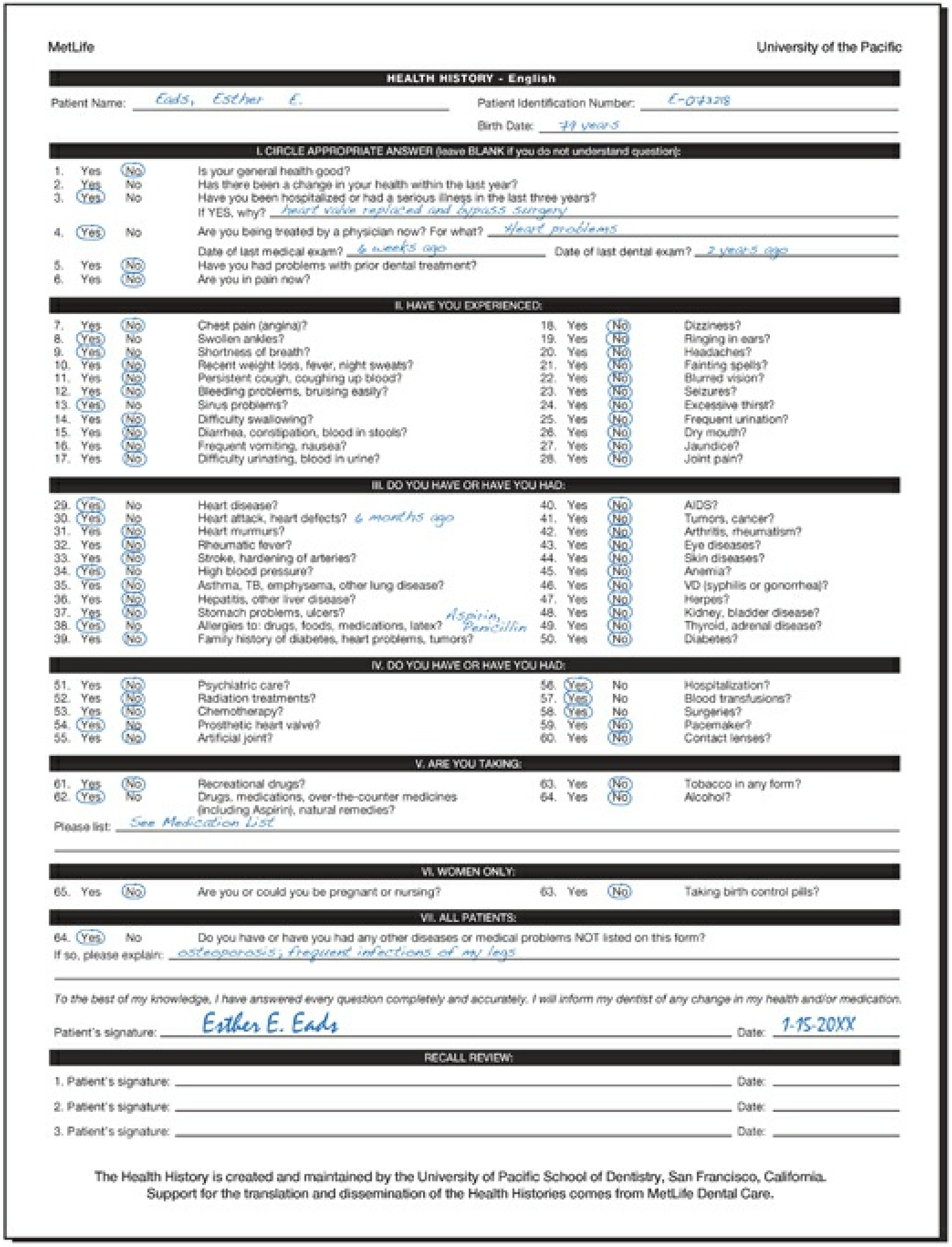
Most patients experience the following with the above planned procedures:

_____ Minimal bleeding with transient bacteria
_____ Prolonged bleeding
_____ Stress and anxiety: ___ Low ___ Moderate ___ High
_____ Other: ______________________
_____ Appointment length: ______________________
_____ Number and frequency of appointments: ________
____
____

____
Dentist's Signature

____
Date

FIGURE 5-21 **Page 1 of medical consultation request for Mrs. Doi (if needed).**



MetLife

University of the Pacific

HEALTH HISTORY - English

Patient Name: Eads, Esther E.

Patient Identification Number: E-073218

Birth Date: 79 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1.	Yes [✓ No]	Is your general health good?
2.	Yes No	Has there been a change in your health within the last year?
3.	[✓ Yes] No	Have you been hospitalized or had a serious illness in the last three years?

If YES, why? heart valve replaced and bypass surgery

4. [✓ Yes] No Are you being treated by a physician now? For what? Heart problems

Date of last medical exam? 6 weeks ago

Date of last dental exam? 2 years ago

5.	Yes [✓ No]	Have you had problems with prior dental treatment?
6.	Yes [✓ No]	Are you in pain now?

II. HAVE YOU EXPERIENCED:

7.	Yes [✓ No]	Chest pain (angina)?	18.	Yes [✓ No]	Dizziness?
8.	[✓ Yes] No	Swollen ankles?	19.	Yes [✓ No]	Ringing in ears?
9.	[✓ Yes] No	Shortness of breath?	20.	Yes [✓ No]	Headaches?
10.	Yes [✓ No]	Recent weight loss, fever, night sweats?	21.	Yes [✓ No]	Fainting spells?
11.	Yes [✓ No]	Persistent cough, coughing up blood?	22.	Yes [✓ No]	Blurred vision?
12.	Yes [✓ No]	Bleeding problems, bruising easily?	23.	Yes [✓ No]	Seizures?
13.	[✓ Yes] No	Sinus problems?	24.	Yes [✓ No]	Excessive thirst?
14.	Yes [✓ No]	Difficulty swallowing?	25.	Yes [✓ No]	Frequent urination?
15.	Yes [✓ No]	Diarrhea, constipation, blood in stools?	26.	Yes [✓ No]	Dry mouth?
16.	Yes [✓ No]	Frequent vomiting, nausea?	27.	Yes [✓ No]	Jaundice?
17.	Yes [✓ No]	Difficulty urinating, blood in urine?	28.	Yes [✓ No]	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	[✓ Yes] No	Heart disease?	40.	Yes [✓ No]	AIDS?
30.	[✓ Yes] No	Heart attack, heart defects? 6 months ago	41.	Yes [✓ No]	Tumors, cancer?
31.	Yes [✓ No]	Heart murmurs?	42.	Yes [✓ No]	Arthritis, rheumatism?
32.	Yes [✓ No]	Rheumatic fever?	43.	Yes [✓ No]	Eye diseases?
33.	Yes [✓ No]	Stroke, hardening of arteries?	44.	Yes [✓ No]	Skin diseases?
34.	[✓ Yes] No	High blood pressure?	45.	Yes [✓ No]	Anemia?
35.	Yes [✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes [✓ No]	VD (syphilis or gonorrhea)?
36.	Yes [✓ No]	Hepatitis, other liver disease?	47.	Yes [✓ No]	Herpes?
37.	Yes [✓ No]	Stomach problems, ulcers?	48.	Yes [✓ No]	Kidney, bladder disease?
38.	[✓ Yes] No	Allergies to: drugs, foods, medications, latex? Aspirin, Penicillin	49.	Yes [✓ No]	Thyroid, adrenal disease?
39.	Yes [✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes [✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes [✓ No]	Psychiatric care?	56.	[✓ Yes] No	Hospitalization?
52.	Yes [✓ No]	Radiation treatments?	57.	[✓ Yes] No	Blood transfusions?
53.	Yes [✓ No]	Chemotherapy?	58.	[✓ Yes] No	Surgeries?
54.	[✓ Yes] No	Prosthetic heart valve?	59.	Yes [✓ No]	Pacemaker?
55.	Yes [✓ No]	Artificial joint?	60.	Yes [✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes [✓ No]	Recreational drugs?	63.	Yes [✓ No]	Tobacco in any form?
62.	[✓ Yes] No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes [✓ No]	Alcohol?

Please list: See Medication List

VI. WOMEN ONLY:

65.	Yes [✓ No]	Are you or could you be pregnant or nursing?	63.	Yes [✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64. [✓ Yes] No Do you have or have you had any other diseases or medical problems NOT listed on this form?

If so, please explain: osteoporosis; frequent infections of my legs

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

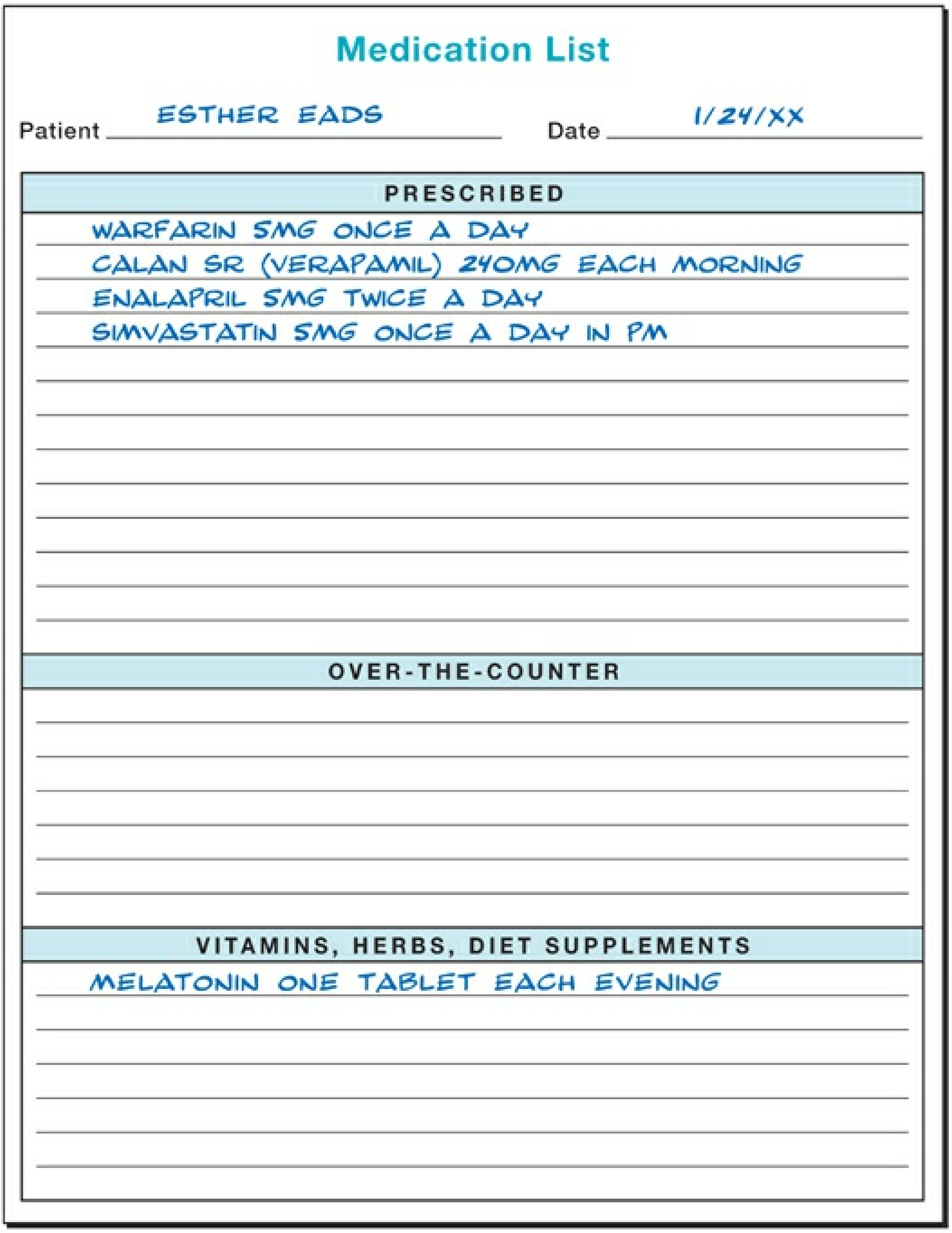
Patient's signature: Esther E. Eads Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: ______ Date: ______
2. Patient's signature: ______ Date: ______
3. Patient's signature: ______ Date: ______

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California. Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 5-22 The health history form for fictitious patient Ms. Eads.



Medication List

Patient ESTHER EADS Date 1/24/XX

PRESCRIBED

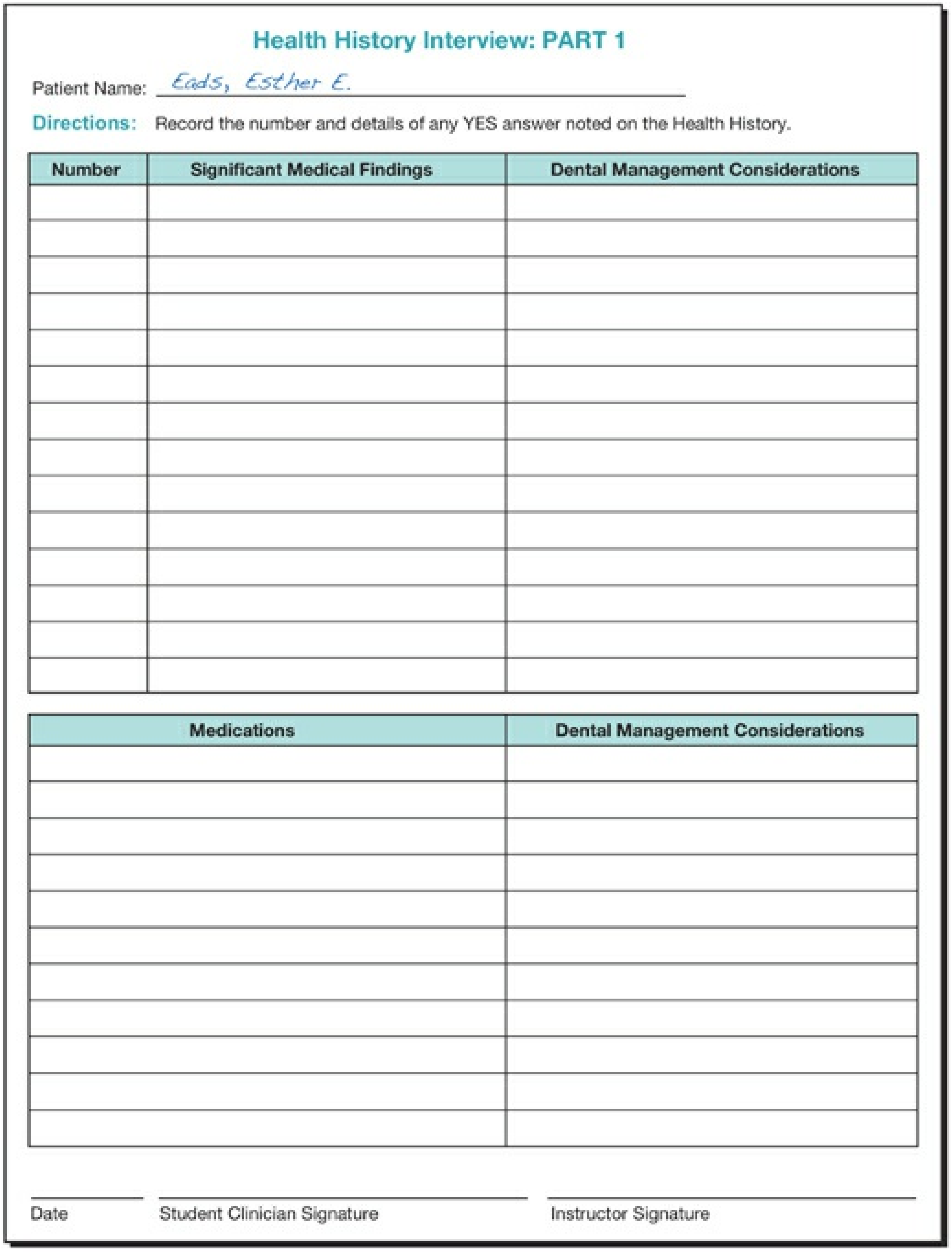
WARFARIN 5MG ONCE A DAY
CALAN SR (VERAPAMIL) 240MG EACH MORNING
ENALAPRIL 5MG TWICE A DAY
SIMVASTATIN 5MG ONCE A DAY IN PM

OVER-THE-COUNTER

VITAMINS, HERBS, DIET SUPPLEMENTS

MELATONIN ONE TABLET EACH EVENING

FIGURE 5-23 Medication list for fictitious patient Ms. Eads.



Health History Interview: PART 1

Patient Name: Eads, Esther E.

Directions: Record the number and details of any YES answer noted on the Health History.

Number	Significant Medical Findings	Dental Management Considerations

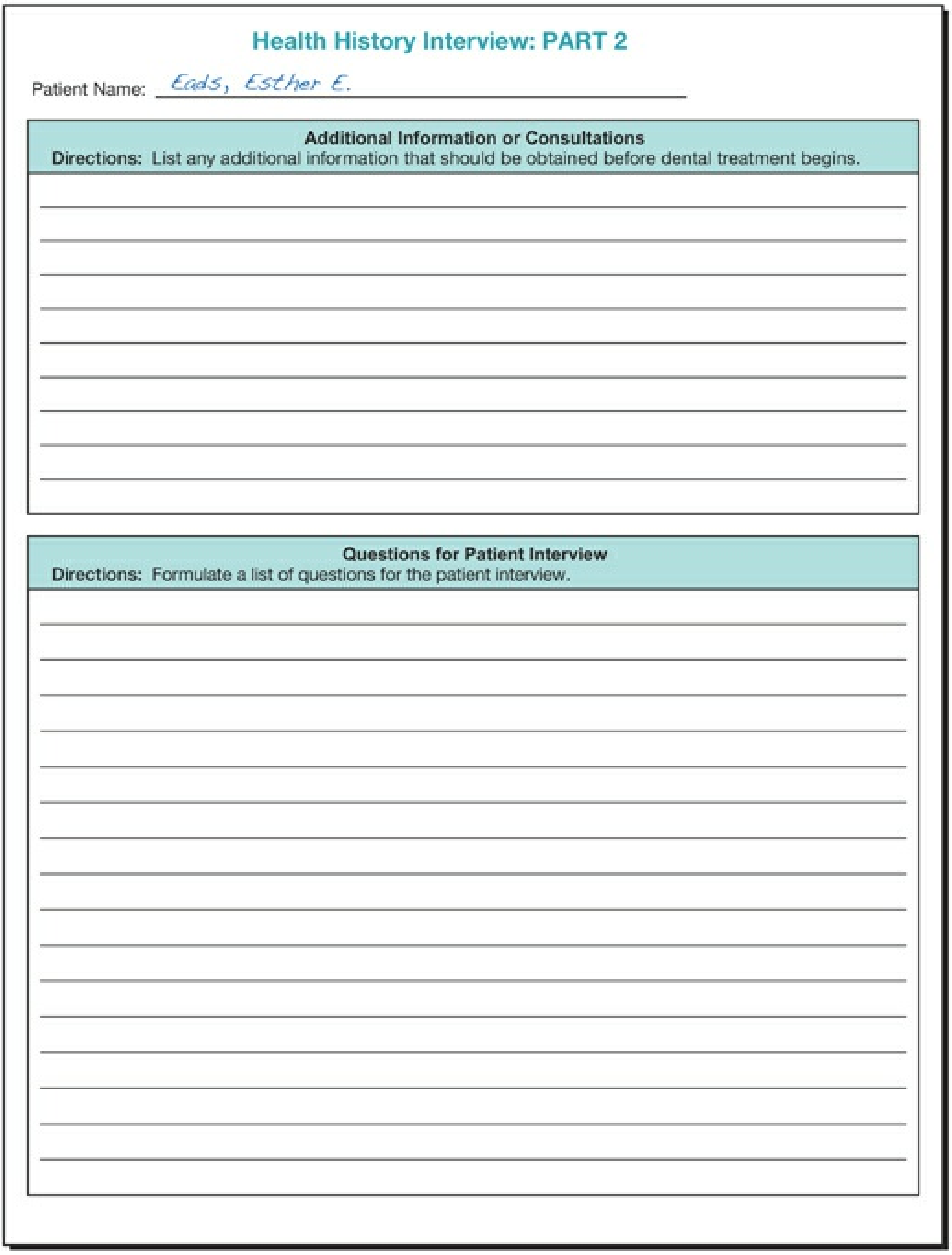
Medications	Dental Management Considerations

Date

Student Clinician Signature

Instructor Signature

FIGURE 5-24A **Ms. Eads: health history synopsis part 1.**



Health History Interview: PART 2

Patient Name: Eads, Esther E.

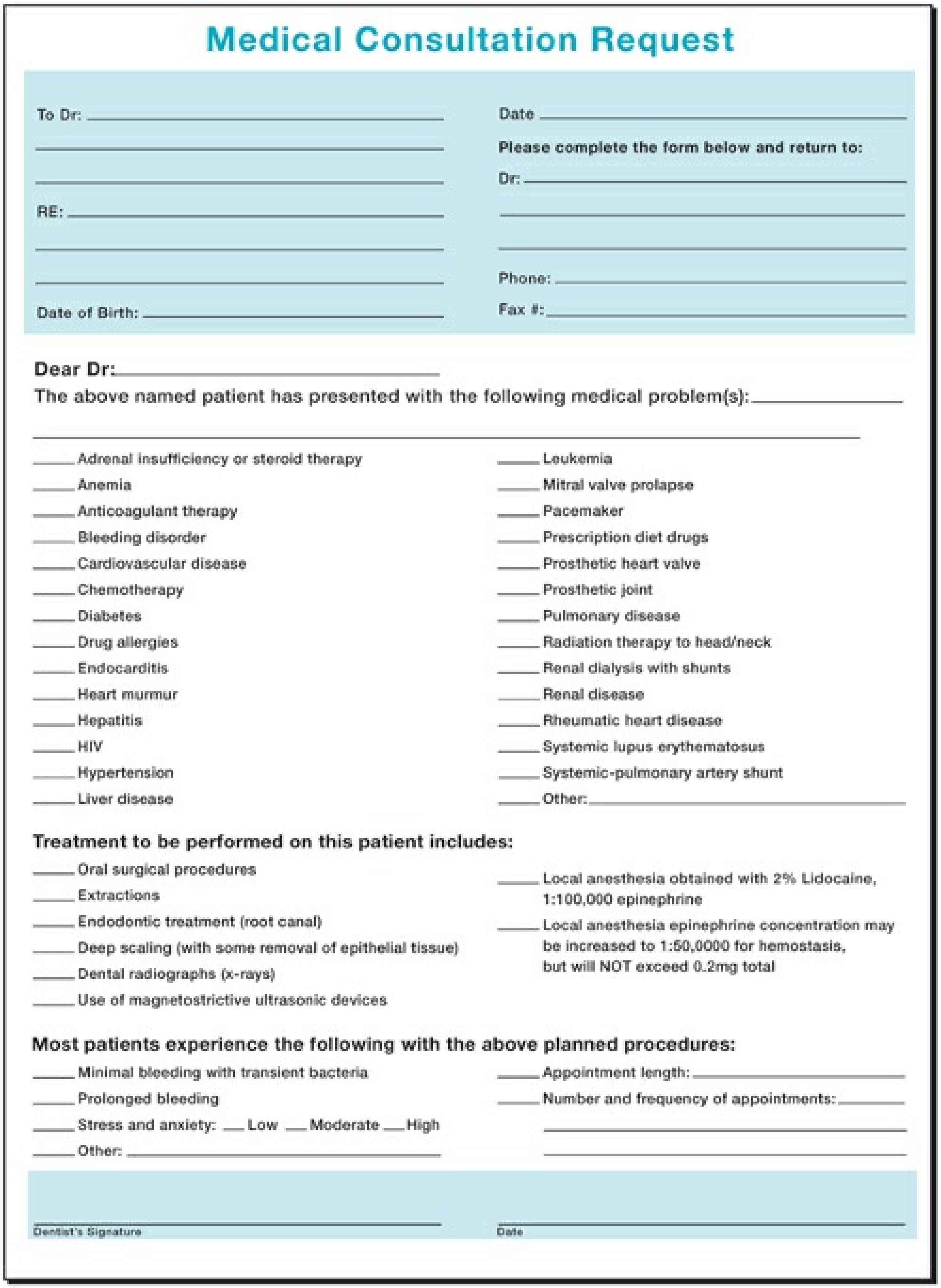
Additional Information or Consultations

Directions: List any additional information that should be obtained before dental treatment begins.

Questions for Patient Interview

Directions: Formulate a list of questions for the patient interview.

FIGURE 5-24B **Ms. Eads: health history synopsis part 2.**



Medical Consultation Request

To Dr: ____________________
____
____
RE: ____________________
____
____
Date of Birth: ____________________

Date ____________________
Please complete the form below and return to:
Dr: ____________________
____
____
Phone: ____________________
Fax #: ____________________

Dear Dr: ____________________
The above named patient has presented with the following medical problem(s): ____________________
____

____ Adrenal insufficiency or steroid therapy
____ Anemia
____ Anticoagulant therapy
____ Bleeding disorder
____ Cardiovascular disease
____ Chemotherapy
____ Diabetes
____ Drug allergies
____ Endocarditis
____ Heart murmur
____ Hepatitis
____ HIV
____ Hypertension
____ Liver disease
____ Leukemia
____ Mitral valve prolapse
____ Pacemaker
____ Prescription diet drugs
____ Prosthetic heart valve
____ Prosthetic joint
____ Pulmonary disease
____ Radiation therapy to head/neck
____ Renal dialysis with shunts
____ Renal disease
____ Rheumatic heart disease
____ Systemic lupus erythematosus
____ Systemic-pulmonary artery shunt
____ Other: ____________________

Treatment to be performed on this patient includes:

____ Oral surgical procedures
____ Extractions
____ Endodontic treatment (root canal)
____ Deep scaling (with some removal of epithelial tissue)
____ Dental radiographs (x-rays)
____ Use of magnetostrictive ultrasonic devices
____ Local anesthesia obtained with 2% Lidocaine, 1:100,000 epinephrine
____ Local anesthesia epinephrine concentration may be increased to 1:50,0000 for hemostasis, but will NOT exceed 0.2mg total

Most patients experience the following with the above planned procedures:

____ Minimal bleeding with transient bacteria
____ Prolonged bleeding
____ Stress and anxiety: ___ Low ___ Moderate ___ High
____ Other: ____________________
____ Appointment length: ____________________
____ Number and frequency of appointments: ____________________
____
____

____
Dentist's Signature

____
Date

FIGURE 5-25 Page 1 of medical consultation request for Ms. Eads (if needed).

DIRECTIONS

- Remove the forms for patients A to E from the book for ease of use.
- For each patient, follow the steps outlined below to conduct an assessment of the medical history and medications.

1. **Review Medical History**
   - Carefully read the patient’s completed medical history form.
   - Circle all “Yes” answers in red.
   - Circle any unanswered questions.
2. **Research Medical Conditions and Diseases**
   - Research all medical conditions and diseases.
   - Start by locating the **Ready Reference 6-1. Common Conditions of Concern in Dentistry** located in **Module 6** of this book.
   - As needed, conduct additional research. If a computer connected to the Internet is available, go online to locate additional information. If you do not have a computer, use oral medicine books to do additional research.
3. **Research Medications—Prescription and Over-the-Counter**
   - Research all medications.
   - Start by using **Ready Reference 6-2. Commonly Prescribed Drugs** located in **Module 6** of this book.
   - As needed, conduct additional research either on the Internet or using drug reference books.
4. **Summarize Information and Formulate Questions**
   - Complete the **Health History Interview** form for each patient.
   - At this point—after reviewing the patient’s medical history, medications, and doing your research—do you have concerns about treating the patient?
   - Do you think any modifications will need to be made in order to treat this patient safely?
   - Make a list of follow-up questions that you should ask during the patient interview. Write your questions on page 2 of the **Health History Interview** form.
5. **Determine if a Medical Consultation Is Needed**
   - For each patient, assess the need for a medical consultation. If needed, complete **page 1 of the Medical Consultation Request**.

Technique Skill Checklist: Medical History Questionnaire

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	**S**	**E**
Reads through every line and "Yes/No" answer on the completed health history form. Identifies any unanswered questions on the health history form and follows up to obtain complete information.		
Makes notes about any information that is not clear or difficult to read. Confirms that the patient has signed and dated the form.		
Circles YES responses in red. Reads through all hand written responses and circles concerns in red.		
Researches medical conditions and diseases including definition, symptoms, and manifestations. Lists potential impact on oral health and any treatment concerns or needed modifications for dental treatment.		
Researches all prescription and OTC medications. Lists potential impact on oral health and any concerns or needed modifications for dental treatment.		

Formulates a list of follow-up questions for the patient interview.		
Formulates a preliminary opinion of the medical risk to the patient of dental treatment and whether a medical consult will be needed. (After completing the patient interview, discusses medical risk and need for medical consultation with a clinical instructor.)		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Role-Play for Medical History

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of a fictitious patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains the purpose of the medical history assessment to the patient.		
After researching medical conditions and medications, asks appropriate follow-up questions to gain complete information from the patient.		
Encourages patient questions before and during the medical history assessment.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level and avoids dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications of the medical history findings for dental treatment. Uses correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

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MODULE
6

READY REFERENCES: MEDICAL HISTORY

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module contains two ready references designed to provide fast access to commonly encountered medical conditions and prescription medications.

- Ready Reference 6-1. Common Conditions of Concern in Dentistry
- Ready Reference 6-2. Commonly Prescribed Drugs

MODULE OUTLINE

SECTION 1	**Medical Conditions and Diseases** Ready Reference 6-1. Common Conditions of Concern in Dentistry
SECTION 2	**Common Prescription Medications** Ready Reference 6-2. Commonly Prescribed Drugs

OBJECTIVES

- Demonstrate skills in using the “Ready References” in this module to

research patient medical conditions/diseases and prescription medications.
- Describe contraindications and complications for dental care presented by various medical conditions/diseases and medications.

INTRODUCTION TO READY REFERENCES

In a dental office or clinic, using the Internet or reference books to research medical conditions and medications may not be practical within minutes of seeing a newly appointed patient. This module contains Ready References designed to provide fast access to dentally relevant information on medical conditions/diseases and prescription medications commonly encountered in dental offices and clinics.

- These Ready References may be removed from the book.
- Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

SECTION 1 • Medical Conditions and Diseases

Ready Reference 6-1. Common Conditions of Concern in Dentistry

	Treatment Considerations
Medical Condition or Disease	**Red font = Potential Medical Emergency Alert**
Addison disease (Adrenal insufficiency)—endocrine or hormonal disorder characterized by weight loss, muscle weakness, fatigue, low	Body less able to respond to stress Increased susceptibility to infection **Acute adrenal insufficiency**

blood pressure, and sometimes darkening of the skin; Addison disease occurs when the adrenal glands do not produce enough of the hormone cortisol and, in some cases, the hormone aldosterone.	
AIDS—see HIV	
Alcoholism—addiction to alcohol	Avoid mouthwashes or other products containing alcohol. Bleeding tendency Caution when using conscious sedation or central nervous system (CNS) depressant drugs Patient may lack interest in dental health.
Allergy—a sensitivity to a normally harmless substance that provokes a strong reaction from the person's body	Possible allergy to latex, other products, or materials used in dentistry Possible xerostomia due to medications **Anaphylaxis**
Alzheimer—progressive deterioration of intellectual functions such as memory	Communication and patient management
Amyotrophic lateral sclerosis (ALS)—see Lou Gehrig disease	
Anemia—a blood condition in	Gingival inflammation

which there are too few red blood cells or the red blood cells are deficient in hemoglobin	Bleeding tendency
Angina—a medical condition in which lack of blood to the heart causes severe chest pains	If taking aspirin therapy, clotting may be reduced. Reduce stress by scheduling shorter, early morning appointments, minimize stress. **Anginal attack**
Anticoagulant therapy—used to prevent blood clots from forming in the deep veins of the body for prevention of stroke and heart attack	Anticoagulants work by increasing the time it takes the blood to clot; increased bleeding from invasive dental treatment, including periodontal instrumentation
Arthritis—inflammation of the joints causing pain, swelling, enlargement, and redness; also see Rheumatoid arthritis	Daily plaque control may be difficult; suggest alternatives to hand brushing and flossing. If taking prednisone or other corticosteroid, increased susceptibility to infection (see Corticosteroid therapy) If taking aspirin, bleeding (see Aspirin/antiplatelet therapy)
Aspirin/antiplatelet therapy—used to prevent platelet clumping and formation of blood clots	Control of bleeding after periodontal instrumentation or surgical procedures
Asthma—a respiratory disease	If taking prednisone: increased

that causes blockage and narrowing of the airways, making it difficult to breathe	risk for infection, poor wound healing, adrenal insufficiency **Asthma attack**
Autism—a neurodevelopmental disorder that causes mild to severe difficulty with social communication and interaction. The disorder often includes repetitive behaviors, clumsiness, and lack of muscle tone.	Repetitive behaviors such as slapping, head banging, and jerking may occur, making dental treatment and care challenging. Clumsiness may require special techniques for oral hygiene self-care.
Bell palsy—a paralysis or weakness of the muscles on one side of the face; it causes one side of the face to droop and affects taste sensation and tear and saliva production.	Protect the eye on the affected side due to the absence of blinking.
Bipolar affective disorder—a condition that causes extreme shifts in mood, energy, and functioning	If taking lithium, this drug can interact with nonsteroidal anti-inflammatory agents used for pain control.
Bulimia nervosa—overeating (binging) and self-induced vomiting (purging) usually associated with anxiety and body dysmorphic disorder (self-image of being overweight and unattractive)	Frequent vomiting causes erosion of tooth enamel of lingual and occlusal aspects of maxillary teeth.
Cerebral palsy—a group of	Patient management

motor problems and physical disorders that result from a brain injury or abnormal brain development; results in uncontrolled reflex movements and muscle tightness (spasticity)	Dental problems
Cerebrovascular accident (CVA) (stroke)—a sudden blockage or rupture of a blood vessel in the brain resulting in loss of speech, movement, or sensation for a period of 24 hours or longer	Patient positioning during treatment If taking anticoagulants, bleeding tendency If taking corticosteroids, increased susceptibility to infection and less able to withstand stress
Chemotherapy—the use of chemical agents to treat diseases, infections, or other disorders, especially cancer	Immune suppression results in increased risk of infection and poor wound healing.
Chronic bronchitis—a long-term inflammation and irritation of the airways of the lungs; symptoms include a cough that produces too much sputum, mild wheezing, and chest pain; common in smokers	Patient positioning **Respiratory difficulty**
Congenital heart defects—structural heart problems or abnormalities that have been present since birth	Consult physician to determine need for antibiotic premedication. Susceptibility to bacterial

	endocarditis
Congestive heart failure (CHF)—a condition in which the heart pumps ineffectively, leading to a buildup of fluid in the lungs, legs, and elsewhere; people with CHF often experience shortness of breath and/or ankle or leg swelling related to this excess fluid	May have breathing problems, may prefer semi-upright position in dental chair Minimize stress If taking diuretic, possible xerostomia **Respiratory difficulty**
Coronary artery disease (CAD)—a condition caused by a combination of high cholesterol, high blood pressure, unhealthy lifestyle (diet, lack of exercise, smoking) that leads to plaque, inflammation and stiffening of walls of the coronary artery	May carry their own nitroglycerine if history of angina; depending on level of severity, patient is at risk for: **Anginal attack or myocardial infarction (heart attack)**
Corticosteroid therapy—corticosteroids are anti-inflammatory drugs widely used for treating a variety of conditions in which tissues become inflamed; an example is prednisone.	Immune suppression with increased risk of infection and poor wound healing; lowered tolerance for stress
Crohn disease—an inflammatory bowel disease (IBD) thought to be an autoimmune response to	Immune suppression with increased risk of infection and poor wound healing

bacterial flora in intestines	
Cushing syndrome—a rare disorder that develops when the body is exposed to too much of the hormone cortisol; may cause weight gain, skin changes, and fatigue and lead to such serious conditions as diabetes, high blood pressure, depression, and osteoporosis	Immune suppression with increased risk of infection and poor wound healing
Cystic fibrosis (CF)—a genetically inherited disease; in the lungs, CF causes thicker-than-normal mucus to form in the airways and lungs, leading to respiratory problems and infections	Increased susceptibility to infection Patient positioning
Diabetes (Type I)—a lifelong disease that develops when the pancreas stops producing insulin; insulin injections must be taken daily.	Increased susceptibility to infection and poor wound healing Appropriate appointment time in regard to insulin therapy and meals Frequent maintenance appointments **Insulin reaction** if using insulin
Diabetes (Type II)—a chronic disease that develops when the pancreas cannot produce	Increased risk of infection Poor wound healing Frequent maintenance

enough insulin, or the body cannot use it properly; it can often be treated without insulin injections.	appointments **Insulin reaction** if taking oral hypoglycemic drugs or using insulin
Down syndrome—people with Down syndrome have an extra or irregular chromosome in some or all of their body's cells; the chromosomal abnormalities impair physical and mental development with mild to moderate below-normal intelligence	Increased risk of infection, leukemia, and hypothyroidism May need caregiver's assistance with daily plaque control self-care
Emphysema—a chronic lung disease in which the alveoli of the lungs are damaged; air is trapped in the lungs, leading to shortness of breath.	Breathing problems, may prefer semi-upright position in dental chair **If emergency situation, no high concentrations of supplemental oxygen**
Endocarditis—an infection of the endocardium (inner lining of the heart)	History of endocarditis indicated high risk for recurrence from dental procedures.
Epilepsy—a brain disorder involving recurrent seizures; a seizure can be a sudden, violent, uncontrollable contraction of a group of muscles or consists of only a brief "loss of contact" or what	Dilantin: gingival hyperplasia Minimize stress. Document type, frequency, and precipitating factors. **Seizures**

appears to be daydreaming	
Fibromyalgia—a syndrome distinguished by chronic pain in the muscles, ligaments, tendons, or bursae around joints	One-third of fibromyalgia patients have temporomandibular joint (TMJ) disorders May appreciate shorter appointments
Gastroesophageal reflux disease (GERD)—the abnormal backflow of stomach acid and juices into the esophagus, the tube that leads from the throat to the stomach; results in heartburn and damage to the esophagus	Erosion of teeth Drugs for GERD may interact with antibiotics, analgesics
Glaucoma—damage to the optic nerve, accompanied by an abnormally high pressure inside the eyeball that can lead to blindness if untreated	Avoid drugs that increase ocular pressure (i.e., atropine).
Glomerulonephritis—a kidney disease caused by inflammation or scarring of the small blood vessels (glomeruli); if chronic, leads to kidney failure; also see Kidney disease, chronic	Medical consultation Toxic accumulation of drugs, including local anesthesia, due to poor drug elimination Increased susceptibility to infection Less able to withstand stress
Graves disease—the most common cause of hyperthyroidism in which the	Epinephrine given to hyperthyroid patient could cause the medical emergency

thyroid gland produces too much thyroid hormone	**thyroid storm**.
Heart attack—see Myocardial infarction	
Hemophilia—a rare genetic bleeding disorder caused by a shortage of certain clotting factors that are needed to help stop bleeding after a cut or injury and to prevent spontaneous bleeding	**Hemorrhage** from dental procedures, including periodontal instrumentation
Hepatitis B—a serious liver infection from hepatitis B virus (HBV); infection may become chronic, leading to liver failure, cancer, or cirrhosis.	Laboratory clearance (ensure that infection has been successfully treated) Infection, bleeding, delayed wound healing Universal precautions
Hepatitis C—the most serious of all hepatitis viruses; usually leads to liver failure, liver cancer, or cirrhosis	Laboratory clearance (ensure that infection has been successfully treated) Infection, bleeding, delayed wound healing Universal precautions
High blood pressure—see Hypertension	
HIV/AIDS—the HIV (human immunodeficiency virus) is a virus that attacks the immune system, making it difficult for	Oral lesions and infections Risk of infection from dental procedures Severe periodontal disease

the body to fight off infection and some disease; HIV eventually causes AIDS (acquired immunodeficiency syndrome).	Universal precautions
Hypertension—high blood pressure; a resting blood pressure consistently 140/90 mm Hg or higher	Epinephrine contraindication If taking diuretic, possible xerostomia If taking calcium blocker, possible gingival enlargement **CVA (stroke), MI (heart attack)**
Hyperthyroidism—an overproduction of thyroid hormone	Epinephrine given to hyperthyroid patient could cause medical emergency “**thyroid storm**.”
Hypothyroidism—an insufficient production of thyroid hormone	In severe hypothyroidism, CNS depressant drugs can pose a risk of **myxedema coma**.
Implantable cardioverter defibrillator—a device that delivers an electrical shock to prevent potentially dangerous heart rhythm abnormalities	Medical consultation **Ultrasonic instrumentation may be contraindicated.**
Kidney dialysis—a mechanical process that performs part of the work that healthy kidneys normally do by removing wastes and extra fluid from the	Medical consultation Toxic accumulation of drugs including local anesthesia due to poor drug elimination Increased susceptibility to

blood	infection Less able to withstand stress Salt restriction Bleeding tendency
Kidney disease, chronic—develops when the kidneys permanently lose most of their ability to remove waste and maintain fluid and chemical balances in the body; in chronic kidney disease, the kidneys have not stopped working altogether but are not working as well as they should. Dialysis or kidney transplantation is required when kidney function drops to about 15% of normal.	Medical consultation Toxic accumulation of drugs including local anesthesia due to poor elimination Increased susceptibility to infection Less able to withstand stress Salt restriction Bleeding tendency
Latex allergy—an unusual sensitivity to latex that varies from a mild allergic reaction to an anaphylactic response	Avoid latex products; in a clinical setting, all clinicians should avoid “snapping” gloves which creates airborne latex particles
Leukemia—cancer of the blood cells in which the bone marrow produces abnormal white blood cells that over time crowd out the normal white blood cells, red blood cells, and platelets	Bleeding tendency Periodontal disease; need for excellent self-care Immune compromised Medical consultation recommended
Liver disorder—impaired	Infection, bleeding, delayed

function of the liver due to cirrhosis, hepatitis, cancer, alcoholism	wound healing
Lou Gehrig disease (Amyotrophic lateral sclerosis)—a progressive wasting away of certain nerve cells of the brain and spinal column; walking, speaking, eating, swallowing, breathing, and other basic functions become more difficult as the disease progresses	Swallowing difficulties; physical disabilities make patient positioning a challenge Daily plaque control may be difficult; suggest alternatives to hand brushing and flossing or educate caregiver.
Lupus erythematosus—an autoimmune disease in which a person's immune system attacks its own tissues as though they were foreign substances; may cause problems with kidneys, heart, lungs, or blood cells	Increase susceptibility to infection due to compromised immune system. **Adrenal crisis**
Ménière disease—a problem in the inner ear that affects hearing and balance, characterized by repeated attacks of dizziness that occur suddenly and without warning; the vertigo experienced during an attack can be intense, leading to nausea and vomiting, and can last anywhere from	Medications may cause xerostomia. Hearing loss in affected ear Dizziness; raise chair slowly from supine position Might need assistance in walking due to dizziness

several minutes to many hours	
Mental disorder—any disease or condition affecting the brain that influences the way a person thinks, feels, behaves, and/or relates to others and to his or her surroundings	Reduced stress tolerance Xerostomia Avoid mouth rinse containing alcohol.
Metabolic syndrome—a group of abnormal findings related to the body's metabolism including excess body fat, high triglycerides and blood pressure, and high cholesterol; causes increased risk of diabetes, heart disease, or stroke	Monitor blood pressure at every appointment.
Mitral valve prolapse—an improper closing of the leaflets of the mitral valve; may cause back flow of blood into the left atrium	Medical consult and probable preoperative antibiotic premedication
Mitral valve stenosis—a heart condition in which the mitral valve fails to open as wide as it should; can cause irregular heartbeats and possibly heart failure or other complications, including stroke, heart infection, pulmonary edema, and blood clots	Medical consult and probable antibiotic premedication

Mononucleosis—a viral illness usually caused by the Epstein-Barr virus (EBV); most common symptoms of mononucleosis include high fever, severe sore throat, swollen glands (especially the tonsils), and fatigue; once infected with EBV, the body may periodically shed (or give off) the virus throughout a person's lifetime, possibly spreading the virus	Standard precautions as the usual route of transmission is through saliva
Multiple myeloma—a rare form of cancer characterized by excessive production and improper function of the plasma cells found in the bone marrow; symptoms may include bone pain, anemia, weakness, fatigue, and lack of color, and kidney abnormalities; affected individuals are more susceptible to bacterial infections such as pneumonia.	Antibiotics may be indicated to control or reduce the incidence of infection.
Multiple sclerosis (MS)—a chronic neurological disease involving the brain, spinal cord, and optic nerves; causes problems with muscle control	Adverse reactions to drugs may include risks for infection, difficulties keeping mouth open during long appointments Daily plaque control may be

and strength, vision, balance, sensation, and mental functions	difficult; suggest alternatives to hand brushing and flossing or educate caregiver.
Muscular dystrophy (MD)—a group of inherited diseases in which the muscles that control movement progressively weaken	Daily plaque control may be difficult; suggest alternatives to hand brushing and flossing or educate caregiver. Muscle weakness and range of motion decrease as the disease progresses will eventually require oral hygiene assistance for patient.
Myasthenia gravis—a neuromuscular disorder primarily characterized by muscle weakness and muscle fatigue; most individuals develop weakness and drooping of the eyelids, double vision, and excessive muscle fatigue; additional features commonly include weakness of facial muscles, impaired articulation of speech, difficulties chewing and swallowing, and weakness of the arms/legs.	Patients may have difficulty in chewing, swallowing, and talking. Daily plaque control may be difficult; suggest alternatives to hand brushing and flossing or educate caregiver.
Myocardial infarction (MI)—a heart attack; caused by a lack of blood supply to the heart for an extended time period, results in permanent damage to the	No elective dental treatment for 6 months Bleeding tendency if taking anticoagulant or aspirin Monitor vital signs.

heart muscle	Minimize stress with shorter appointments, early morning appointments
Narcolepsy—a chronic sleep disorder mainly characterized by an excessive daytime drowsiness with episodes of suddenly falling asleep	Be alert for sudden episodes of sleeping. Stress may cause cataplexy resulting in slurred speech or total physical collapse.
Non-Hodgkin lymphoma—cancer of the lymphatic system resulting in painless, swollen lymph nodes; symptoms include fever, drowsiness, weight loss	Swollen lymph nodes may be only sign of condition in early phase.
Oral/head and neck cancer—cancerous lesions of the oral cavity and/or head and neck region	Radiation therapy Medical consultation recommended; may need antibiotic premedication Xerostomia may be present. Increased susceptibility to infection Risk of dental caries due to radiation Prevention: early detection of lesions
Organ transplant—a surgical procedure to remove a damaged or diseased organ and replace it with a healthy donor organ; heart, intestine, kidney, liver,	Extra precautions to avoid infections **Adrenal insufficiency**

lung, pancreas replacement	
Osteonecrosis of the jaw—a medication known as bisphosphonates, alone or in combination with other drugs, has been linked to medication-related osteonecrosis of the jaw (MRONJ). Risk of MRONJ varies with route of administration (IV), length of time of treatment, combinations of drugs (i.e., cortisone), and patient diseases (i.e., diabetes) and conditions.	Further question patients who have a history of taking bisphosphonate drugs. Consult with patient's physician for approval of treatment plan.
Pacemaker—a small device that sends electrical impulses to the heart muscle to maintain a suitable heart rate and rhythm; it is implanted just under the skin of the chest during a minor surgical procedure.	Avoid use of ultrasonic devices.
Panic disorder—consists of several, unexpected panic attacks, which usually begin with a sudden feeling of extreme anxiety; an attack can be triggered by a stressful event or occur for no apparent reason and can last several minutes; symptoms may include a	Provide a stress reduction protocol if the patient is apprehensive about dental treatment.

feeling of intense fear or terror, difficulty breathing, chest pain or tightness, heartbeat changes, dizziness, sweating, and shaking; patients can mistake a panic attack for a heart attack.	
Parkinson disease—a chronic, progressive motor system disorder; the four primary symptoms are tremor or trembling in hands, arms, legs, jaw, and face; rigidity or stiffness of the limbs and trunk; slowness of movement; and impaired balance and coordination; patients may have difficulty walking, talking, or completing other simple tasks.	Assist patient with positioning in dental chair and when walking to and from treatment area. Swallowing difficulties Poor motor control; daily plaque control may be difficult; suggest alternatives to hand brushing and flossing or educate caregiver.
Peripheral arterial disease (PAD)—poor circulation to limbs, especially the legs; occurs when arteries supplying blood to limbs become clogged or partially blocked	Patient may not be able to tolerate long appointments without frequent walking breaks.
Polymyalgia rheumatica—an inflammatory disorder that causes widespread muscle aching and stiffness, especially in the neck, shoulders, thighs, and hips	If on long-term corticosteroid therapy, increased susceptibility to infection

Rheumatic fever—a rare but potentially life-threatening disease, rheumatic fever is a complication of untreated strep throat	If patient taking prednisone or another corticosteroid, increased susceptibility to infection **Adrenal crisis**
Rheumatic heart disease—a condition that can result from rheumatic fever; usually a thickening and constriction of one or more of the heart valves that often requires surgery to repair or replace the involved valve(s)	Medical consultation Antibiotic premedication Minimize stress. Monitor vital signs.
Rheumatoid arthritis—a relatively common disease of the joints; the tissues lining the joints become inflamed; over time, the inflammation may destroy the joint tissues, leading to disability. Rheumatoid arthritis affects women twice as often as men and frequently begins between the ages of 40 and 60 years.	If patient taking corticosteroids, susceptibility to infection **Adrenal crisis**
Schizophrenia—a severe brain disease that interferes with normal brain and mental function—it can trigger hallucinations, delusions, paranoia, and significant lack of motivation; without treatment,	Personality problems; may be paranoid, feel threatened, apprehensive If taking medications faithfully, most problems will be well controlled; may be drowsy or react slowly to requests or

schizophrenia affects the ability to think clearly, manage emotions, and interact appropriately with other people.	questions
Scleroderma—a connective tissue disorder characterized by abnormal thickening of the skin; some types affect specific parts of the body, while other types can affect the whole body and internal organs	Cardiac, circulatory, pulmonary, and kidney complications
Sexually transmitted diseases (STDs)—those diseases that are spread by sexual contact; STDs can also be spread from a pregnant woman to her fetus before or during delivery.	Refer to physician and postpone treatment when oral lesions or other signs suggest infection.
Sickle cell anemia—an inherited disease in which the red blood cells, normally disc shaped, become crescent shaped; these cells function abnormally and cause small blood clots; these clots give rise to recurrent painful episodes called "sickle cell pain crises."	Patients have episodes of pain in the chest, abdomen, and joints. At greater risk for infection due to sickle cell damage to the spleen
Sjögren syndrome (pronounced "showgrins")—is a disorder in which the immune system attacks the body's	Xerostomia predisposes patients to dental caries. If major organs are involved, there is greater risk for

moisture-producing glands, such as the tear and salivary glands; these glands may become scarred and damaged, and exceptional dryness in the eyes and mouth may develop	infection.
Splenectomy—the removal of a spleen that is enlarged or injured; patients without a spleen are termed *asplenic*	Increased susceptibility to infection
Stroke—see Cerebrovascular accident	
Thrombophlebitis—a blood clot and inflammation in one or more veins, typically in the legs; cause is inactivity due to travel or convalescence Cerebrovascular accident	Consult with physician regarding anticoagulant therapy and risks for hemorrhage.
Tinnitus—ringing or buzzing in the ears, that is, constant or intermittent and usually caused by noise exposure	Tinnitus can be caused or worsened by TMJ disorder. Patient may not tolerate ultrasonic instrumentation.
Tourette syndrome—a condition that causes patients to exhibit uncontrolled behaviors known as tics; tics range from bouts of lip smacking, blinking, shrugging, repetitive phrases, or shouting obscenities.	Patient management if tics are not controlled.

Tuberculosis (TB)—a bacterial infection that usually affects the lungs but can affect other parts of the body; is classified as latent or active; active TB can be spread to others.	Active TB may spread through aerosols in clinic (patient should not receive elective dental care). Consult with physician if patient presents with history of TB.

Ready Reference 6-1 adapted with permission from Cynthia Biron Leisica, DH Meth-Ed.

SECTION 2 • Common Prescription Medications

Key:
Areas for concern are printed in a **red font** color.
Brand names are printed in **bold letters**.
Generic names are printed in *italics*.

GLOSSARY OF ABBREVIATIONS OF COMMON DRUG CATEGORIES

High Blood Pressure Medications
ACEI: angiotensin-converting enzyme inhibitor
AIIB: angiotensin II blockers
BB: beta blockers
CCB: calcium channel blockers
HCTZ: hydrochlorothiazide diuretics

Cholesterol-Lowering Drugs
STATIN: limit lipid synthesis

Vasoconstrictors in Local Anesthesia
EPI: epinephrine
LFRN: levonordefrin

Antidepressants
TCA: tricyclic antidepressants
SSRI: selective serotonin reuptake inhibitors

Asthma/COPD Medications
CORT: cortisone
BRNC: bronchodilators

Pain Relievers (Analgesics)
NSAID: nonsteroidal anti-inflammatory drug

Ready Reference 6-2. Commonly Prescribed Drugs

Drug	**Use**	**Concerns Manifesta**
Abilify, *aripiprazole*	Antipsychotic drug used to treat various psychoses (such as hallucinations, delusional beliefs, disorganized thinking)	Involuntar contractio that can pr with patie during the
Abstral, *fentanyl* (sublingual)	Sublingual administration of fentanyl, a powerful opioid pain reliever	Dizziness, fainting
Acarbose, **Precose**	Oral drug for the control of diabetes	Hypoglyc nausea; if poorly cor increased periodonti
Accupril, *quinapril*	ACEI to treat high blood pressure and heart failure and prevent kidney failure	Altered ta nausea, vo minimize

	due to high blood pressure and diabetes	vasoconst anesthetic hypotensi
Accutane, Amnesteem, Claravis, Sotret, *isotretinoin*	A strong vitamin A oral medication used to treat acne when other medications are not effective	Causes ser birth defec Frequently depressio
Acebutolol, **Sectral**	BB to treat angina and high blood pressure	Feeling fa irregular h
Acetaminophen/codeine, **Tylenol 3**	Acetaminophen is used for the relief of pain and fever. Codeine is added to increase pain relief.	Nausea, v
Aciphex, *rabeprazole*	Medication for treatment of heartburn, gastroesophageal reflux disease (GERD) (acid reflux disease)	Xerostomi nausea, di nervousne
Actiq, *fentanyl* (lozenge)	Narcotic oral lozenge for pain	Dental car depressio
Actonel, *risedronate*	Bisphosphonate medication for the treatment of Paget disease (a disease in which the formation of bone is abnormal) and in persons with osteoporosis	Nausea, m related ost the jaw (M possibility
Actos, *pioglitazone*	Oral medication used to treat type II diabetes	Respirator infection, sinusitis, l sore throa

		poorly cor increased periodonti
Acyclovir, **Zovirax**	Antiviral: herpes I, II, herpes zoster (shingles)	Lighthead
Adderall, *dextroamphetamine*	Medication to treat attention deficit hyperactivity disorder (ADHD) and narcolepsy (CNS disease causing excessive daytime sleepiness)	Xerostomi anxiety, re excitabilit tremor; bl and heart increase.
Advair, *salmeterol/fluticasone*	BRNC/CORT inhaler to treat asthma, chronic bronchitis, or emphysema	Xerostomi respiratory
Advil, *ibuprofen*	NSAID for relief of mild to moderate pain	Xerostomi lichen pla mucosa/la tongue, di drowsines heartburn, bleeding
Aggrenox, *aspirin/dipyridamole*	Antiplatelet that reduces the clumping of platelets in the blood; used to prevent blood clots and stroke	Hemorrha
Aldara, *imiquimod* (topical)	Medication for warts in sexually transmitted diseases (STDs) also used to treat some cancers	Treatment

Alendronate, **Fosamax**	Bisphosphonate medication used for the treatment of persons with osteoporosis	Possibilit osteonecr
Aleve, *naproxen*	NSAID for relief of mild to moderate pain	Xerostom drowsines heartburn, bleeding t
Allegra, *fexofenadine* **Allegra-D** (with *pseudoephedrine*)	Antihistamine to treat allergy symptoms. Allegra-D has a decongestant to reduce mucus and running nose	Xerostom headache,
Allopurinol, **Alloprin, Zyloprim**	A xanthine inhibitor that reduces uric acid production for the treatment of gouty arthritis	Salty taste
Alphagan, *brimonidine*	Medication for the treatment of glaucoma	Xerostom
Alprazolam, **Xanax**	Benzodiazepine to treat anxiety associated with situations such as dental appointments, or in general anxiety disorders	Xerostom lighthead
Altace, *ramipril*	ACEI to treat high blood pressure, heart failure, and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, v vasoconst anesthetic minimize hypotensi

Alupent inhaler, *albuterol*	BRNC inhaler for asthma	Xerostomi
Amaryl, *glimepiride*	Oral drug for the control of diabetes	Hypoglyc nausea; if poorly co increased periodonti
Ambien, *zolpidem*	Insomnia treatment (sleep aid)	Xerostomi lightheade fatigue, w increased
Ambien CR, *zolpidem*	Controlled release formula for insomnia	Xerostomi lightheade fatigue, w increased
Amiodarone HCl, **Cordarone**	Antiarrhythmic medication for irregular heartbeat	Altered sa taste
Amitiza, *lubiprostone*	Treatment for chronic constipation	Xerostomi stomach
Amitriptyline, **Elavil**	TCA with pain relieving effects; also used to treat temporomandibular joint (TMJ) pain	Xerostomi hypotensi use of vas local anes minimize
Amlodipine, **Norvasc**	CCB used to treat angina	Gingival involunta contractio changes i heart rate

Amlodipine/atorvastatin	Combination CCB/STATIN to treat both angina and high cholesterol	Gingival h involuntar contractio changes in heart rate, and weakn flu-like sy
Amlodipine/benazepril	Combination CCB/ACEI to treat angina and lower blood pressure	Gingival h involuntar contractio changes in heart rate, cough, diz vomiting; vasoconstr anesthetic hypotensio
Amlodipine/valsartan	Combination CCB/AIIB to treat angina and lower blood pressure	Gingival h involuntar contractio changes in heart rate,
Amoxicillin, **Amoxil**	Penicillin-type antibiotic used to treat infections and for the prevention of bacterial endocarditis	Oral candi hairy tong nausea
Amphetamine salt, **Dyanavel XR**	Stimulant used to treat narcolepsy, ADHD	Nervousne hypertensi rate, anore with vaso

		local anes
AndroGel, *testosterone*	Hormone medication for low testosterone levels in men	Ankle swe
Anoro Ellipta, *umeclidinium/vilanterol*	Anticholinergic/beta$_2$ agonist inhaler for chronic obstructive pulmonary disease (COPD) (contraindicated for asthma)	Xerostomi sinusitis **Never for**
Apri, *ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral con
Aranesp, *darbepoetin alfa*	A medication to treat anemia in patients having chemotherapy	Hypertens in 20% of
Aricept, *donepezil*	Treatment for Alzheimer disease	Slow hear
Aripiprazole, **Abilify**	Antipsychotic drug to treat various psychoses (hallucinations, delusional beliefs, disorganized thinking)	Involuntar contractio may prese with patie at appoint
Arnuity Ellipta, *fluticasone furoate*	CORT inhaler for maintenance therapy for asthma	Candidias throat Pati and expec inhalation
Asacol, *mesalamine*	Treatment for ulcerative colitis in inflammatory	Pharyngiti

	bowel disease or Crohn disease	
Asmanex Twisthaler, *mometasone furoate*	CORT inhaler for maintenance therapy for asthma	Inflammat throat, an
Aspirin, **Bayer, Bufferin**	NSAID to treat fever, pain, and inflammation; heart attack: chew two aspirin, swallow with water	Bleeding, stomach, vomiting allergy: n aspirin.
Astelin, *azelastine*	Nasal spray for swelling and inflammation of the mucous membranes inside the nose	Xerostom ulcers, alt
Atacand, *candesartan*	AIIB for lowering high blood pressure	Runny no cough, ba headache,
Atelvia, *risedronate sodium*	Bisphosphonate for the treatment of persons with osteoporosis	Possibility osteonecr
Atenolol, **Tenormin**	BB to treat angina and high blood pressure	Feeling fa irregular
Atenolol chlorthalidone, **Tenoretic**	BB combined with HCTZ to treat angina and high blood pressure	Hypotens heartbeat, feet
Ativan, *lorazepam*	Benzodiazepine for anxiety, also used as a sleep aid	Dizziness;
Atorvastatin, **Lipitor**	STATIN to lower cholesterol to prevent	Muscle pa weakness,

	coronary artery disease	symptoms stomach p appetite
Atripla, *efavirenz, emtricitabine, tenofovir*	Combination of three medications in one tablet for treatment of HIV+	Upset stor dizziness,
Atrovent, *ipratropium*	BRNC for chronic bronchitis and emphysema	Xerostomi nervousne
Augment ES-600, *amoxicillin*	Penicillin-type antibiotic used to treat bacterial infections	Black hair coated ton candidiasi vomiting
Avalide, *Irbesartan/HCTZ*	AIIB for lowering high blood pressure	Dizziness, hypotensi
Avandamet, *rosiglitazone/glimepiride*	Oral medication used to treat type II diabetes	If patient i increased risk of hyp
Avandia, *rosiglitazone maleate*	Oral medication used to treat type II diabetes	If patient i increased risk of hyp
Avapro, *irbesartan*	AIIB to treat high blood pressure and congestive heart failure	Dizziness; vasoconstr local anes
Avelox, *moxifloxacin*	Antibiotic to treat pneumonia and eye and skin infections	Dizziness, and loud h
Aviane, *levonorgestrel, estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe

		decrease t of oral co
Avinza, *morphine sulfate*	Narcotic for moderate to severe pain	Dizziness,
Avodart, *dutasteride*	Medication for benign prostate enlargement	None
Avonex, *interferon beta-1a*	Medication for relapsing forms of multiple sclerosis	Headache,
Axiron, *topical testosterone*	Testosterone for hypogonadism in men	Nausea
Azathioprine, **Azasan, Imuran**	Immunosuppressant for lichen planus, erythema multiforme, pemphigus	Fever, ma gastrointe
Azithromycin, **Z-Pak, Zithromax**	Antibiotic, alternative for prevention of endocarditis	Caution i
Azor, *amlodipine and olmesartan*	Combined medications to lower high blood pressure	Hypotensi
Baclofen, **Lioresal**	Muscle relaxant for multiple sclerosis	Drowsines
Bactroban, *mupirocin*	Topical antibiotic for treatment of impetigo, infected eczema, also used as a nasal ointment	None
Belsomra, *suvorexant*	Treatment for insomnia, sleep aid	Xerostomi drowsines
Benazepril, **Lotensin**	ACEI to treat high blood	Altered ta

	pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	nausea, vo minimize vasoconstr anesthetic hypotensio
Benicar, *olmesartan* **Benicar HCT**, *olmesartan HCTZ*	AIIB/HCTZ combination to treat high blood pressure	Altered ta nausea, vo minimize vasoconstr anesthetic hypotensio
Benzonatate, **Tessalon**	Cough medicine, topical anesthetic	None
Betaseron, *interferon beta-1b*	Medication for treatment of multiple sclerosis	Flu-like sy
Beyaz, *drospirenone*, *ethinyl estradiol, and levomefolate*	Combination of drugs for birth control, premenstrual disorders and acne	Antibiotic dental infe decrease t of oral co
Biaxin XL, *clarithromycin*	Antibiotic used to treat bacterial infections	Oral candi taste, coug nausea
Bisoprolol/HCTZ	BB/HCTZ to lower blood pressure	Abnormal hypotensio
Bonine, *meclizine*	Used for the treatment of nausea, vomiting, and dizziness	Xerostomi
Boniva, *ibandronate*	Bisphosphonate used to treat	Possibility

	osteoporosis	osteonecro
Breo Ellipta, *fluticasone furoate/vilanterol*	Anticholinergic/beta$_2$ agonist Inhaler for COPD —**contraindicated for asthma**)	Xerostomi sinusitis **Never for**
Budesonide, **Entocort**	Enteric coated cortisone tablets for short-term flare up of Crohn disease	Candidias throat, hea
Bupropion, **Budeprion SR** **Wellbutrin SR** (sustained release) **Wellbutrin XL** (extended release)	Antidepressant	Xerostomi
Buspirone, **BuSpar**	Medication for the management of anxiety	Dizziness, xerostomi
Butalbital/APAP/caffeine, **Fioricet**	Combination of drugs for pain relief	Dizziness, lightheade
Bydureon, *exenatide*	Injectable noninsulin medication for type II diabetes	Hypoglyc
Byetta, *exenatide*	Oral medication for type II diabetes	Hypoglyc
Bystolic, *nebivolol*	BB for treatment of high blood pressure	Headache, fatigue, in
Cabergoline, **Dostinex**	Treatment of hyperprolactinemia	Xerostomi throat irrit
Caduet,	CCB/STATIN; combination	Muscle pa

amlodipine/atorvastatin	to lower blood pressure and high cholesterol to prevent coronary artery disease	weakness, symptoms stomach p appetite
Calcitonin (salmon), **Calcimar**	Hormone that stops bone resorption	None
Calcitriol, **Calcijex, Rocaltrol**	A form of vitamin D used to treat and prevent low levels of calcium in the blood	Metallic ta
Candesartan, **Atacand** *Candesartan with HCTZ*	AIIB/HCTZ to treat high blood pressure and kidney problems	Lighthead hypotensio hands and hypokalen risk of hyp
Captopril, **Capoten**	ACEI to treat high blood pressure, heart failure, and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo minimize epinephri levonorde anesthetic hypotensio
Carafate, *sucralfate*	Medication to heal or prevent stomach and duodenal ulcers	Stomach p indigestion itching or insomnia, drowsines sensation, back pain
Carbamazepine, **Carbatrol,**	Anticonvulsant, also for	Xerostomi

Epitol, Tegretol	trigeminal or glossopharyngeal neuralgia	
Carbidopa/levodopa, **Lodosyn**	Medication used to treat Parkinson disease	Hypotensi anxiety
Carisoprodol, **Soma**	Medication used for muscle relaxant and TMJ pain	Hypotensi
Cartia XT, *diltiazem*	CCB for chest pain from angina	Gingival h
Carvedilol, **Coreg CR**	BB to lower blood pressure	Xerostomi
Casodex, *bicalutamide*	Chemotherapy for prostate cancer	Xerostomi
Catapres, *clonidine hydrochloride*	Medication for the treatment of hypertension; also used to manage the symptoms of narcotic withdrawal, nicotine withdrawal	Drowsines salivary gl enlargeme minimize in local an
Cefadroxil, **Duricef**	Antibiotic alternative to penicillin for prevention of infective endocarditis	None
Cefdinir, **Omnicef**	Antibiotic medication for pneumonia, ear infection, sinusitis, pharyngitis, tonsillitis, skin infections	Nausea, h
Cefprozil, **Cefzil**	Antibiotic: ear, respiratory, and skin infections	Nausea, h
Ceftin, *cefuroxime*	Antibiotic: lower respiratory, skin, bone, full	Nausea, h

	body infection (sepsis)	
Celebrex, *celecoxib*	NSAID for relief of mild to moderate pain of arthritis	Possible i heart attac altered tas aphthous stomatitis
Celexa, *citalopram*	SSRI for treatment of depression, obsessive-compulsive disorders (OCDs), panic disorders	Xerostom nausea, or dizziness
CellCept, *mycophenolate*	Immunosuppressant: to prevent rejection of organ transplant	Oral ulcer candidias gingival h
Cephalexin, **Keflex**	Antibiotic: alternative to penicillin for prevention of infective endocarditis	Nausea, h
Cetirizine, **Zyrtec**	Antihistamine: for allergy, hay fever	Xerostom
Chantix, *varenicline*	Non-nicotine medication designed to help smokers quit more easily than without the drug	Bad taste; thoughts medicatio withdraw medicatio heartburn, agitation, headache; mood, be
Cholestyramine powder	Lowers cholesterol by absorbing bile acids in blood	None

Choline fenofibrate, **Antara**	Adds fiber to the stomach to remove fats from dietary intake	Stomach p stuffy nos
Cialis, *tadalafil*	Erectile dysfunction	**If chest p nitroglyce**
Cilostazol, **Pletal**	Antiplatelet agent: used to prevent platelets from clumping and forming clots	Headache patients
Cimzia, *certolizumab pegol*	Medication for inflammation in Crohn disease, rheumatoid arthritis, psoriatic arthritis	Chest pain short of br in neck, fa
Cipro, *ciprofloxacin*	Antibiotic for treatment of bacterial infections; also used for periodontitis associated with *Actinobacillus actinomycetemcomitans*	Oral candi
Ciprodex, *Ciprofloxacin/dexamethasone*	Combination of ciprofloxacin and cortisone for ear infections	None
Citalopram, **Celexa**	SSRI for treatment of depression, OCDs, panic disorders	Xerostomi nausea, or dizziness
Clarinex, *desloratadine*	Nasal spray for runny nose and nasal congestion	Xerostomi
Clarithromycin, **Biaxin**	Antibiotic used to treat bacterial infections	Oral candi taste, coug

		nausea
Claritin, *loratadine* **Claritin-D** (with decongestant)	Antihistamine used to treat the symptoms of allergy	Xerostomi palpitation
Clindamycin, **Cleocin**	Antibiotic for treatment of infections, prevention of bacterial endocarditis	Oral candi dizziness
Clindamycin (topical), **Cleocin T**	Antibacterial agent for acne	None
Clobetasol propionate, **Clobevate**	Topical cortisone: erosive disorders such as lichen planus, aphthae	None
Clomipramine, **Anafranil**	TCA for the treatment of obsessions and compulsions in patients with OCDs	Dizziness, xerostomi stomach u vomiting, appetite/w sweating, blurred vis
Clonazepam, **Klonopin**	Medication for certain types of seizures in the treatment of epilepsy and for the treatment of panic disorders	Dizziness, fainting
Clonidine, **Catapres**	Medication for the treatment of hypertension; also used to manage the symptoms of narcotic withdrawal, nicotine withdrawal	Drowsines salivary gl enlargeme vasoconstr anesthetic minimizec

Clopidogrel, **Plavix**	A medication that reduces the clumping of platelets in the blood; reduces risks for heart attack and stroke	Increased
Clorazepate, **Tranxene**	Medication used to treat general anxiety disorder, partial seizures	Xerostomi hypotensi
Clotrimazole, **Lotrimin**	Topical antifungal medication in the form of a lozenge (troche) used to treat oral candidiasis	None
Clotrimazole/betamethasone, **Lotrisone**	Antifungal with cortisone: topical Dental use: oral lesions	None
Colchicine, *probenecid*	Medication for the treatment for gout	Dizziness, gums, nau
Colestipol, **Colestid**	Lowers cholesterol by binding with bile in the intestines	Constipati
Combigan, *brimonidine tartrate/timolol*	Eye drops for treatment of glaucoma	None
Combivent, *ipratropium/albuterol*	BRNC inhaler for COPD	Xerostomi
Combivent Respimat, *albuterol and ipratropium*	BRNC inhaler for COPD	Cough, he throat, bro
Combivir, *zidovudine/lamivudine*	Two antiretroviral drugs combined for treatment of HIV+	Headache, pain, naus tiredness,

		weakness
Complera, *emtricitabine*, *rilpivirine*, *tenofovir*	Three antiretroviral drugs combined for treatment of HIV+	Headache, pain, naus tiredness, weakness
Concerta, *methylphenidate XR*	Medication for treatment of ADHD	Hypertens
Conjugated estrogens, **Premarin**	Hormone replacement therapy	None
Copaxone, *glatiramer acetate*	Medication for relapsing MS	Anxiety, b flushing, h nausea, vo weakness
Coreg, *carvedilol*	BB to treat high blood pressure and congestive heart failure	Hypotensi minimize vasoconstr anesthetic
Cosopt, *dorzolamide/timolol*	Used to decrease intraocular pressure (pressure within the eyeball)	Altered ta
Cotrim, *co-trimoxazole*	Antibiotic used for urinary tract infections, respiratory tract infections, middle ear infections	Oral candi dizziness,
Coumadin, *warfarin*	Anticoagulant helpful in preventing blood clot formation in patients with atrial fibrillation and	Ulceration bleeding to medical co

	artificial heart valves to reduce the risk of strokes	
Cozaar, *losartan*	AIIB to treat high blood pressure, congestive heart failure	Xerostomi hypotensio minimize vasoconstr anesthetic
Crestor, *rosuvastatin*	STATIN to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Cromolyn inhaler sodium, **Intal**	Anti-inflammatory maintenance inhaler for bronchial asthma	Throat irri taste, coug nausea
Cyclobenzaprine, **Flexeril**	Muscle relaxant, also used for TMJ dysfunction	Dizziness, edema
Cyclosporine, **Sandimmune**	Immunosuppressant in organ transplant	Gingival h lesions
Cymbalta, *duloxetine*	SSRI and norepinephrine inhibitor for depression	Xerostomi tiredness,
Deltasone, *prednisone*	An oral corticosteroid used to treat arthritis, colitis, asthma, bronchitis	Oral candi With long increased infection, insufficien
Depakote, *divalproex*	Medication for the treatment of seizures, bipolar disorder,	Dizziness, periodonta

	and prevention of migraines	abnormali
Desipramine, **Norpramin**	TCA for treatment of depression	Tingly fee lack of co xerostomi vomiting, tinnitus
Desogestrel/ethinyl estradiol,	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Desoximetasone, **Topicort**	Topical corticosteroid used to treat inflammation of the skin	None
Detrol LA, *tolterodine*	Used to treat uncontrollable urination due to what is often referred to as an “overactive” bladder	Xerostomi
Dexilant, *dexlansoprazole*	Medication for GERD	Xerostomi upset, gas disorders
Dextroamphetamine sulfate, **Dexedrine**	Stimulant used to treat narcolepsy and ADHD	Nervousne hypertensi rate, anore with vaso local anes
Diazepam, **Valium**	Benzodiazepine for treatment of general anxiety disorder	Nausea

Diclofenac, **Voltaren**	NSAID for treatment of rheumatoid arthritis	Dizziness, headache, nausea
Didanosine, **Videx**	Medication for the treatment of HIV+	Headache, pain, naus tiredness, weakness
Differin, *adapalene*	Topical treatment for acne	Erythema, dryness
Diflucan, *fluconazole*	Antifungal used to treat oral, esophageal, urinary, vaginal infections caused by the fungus *Candida*	Dizziness,
Digitek, *digoxin*	Used to treat heart failure and abnormal heart rhythms	Hypotensi minimize vasoconst anesthesia arrhythmi
Dilantin, *phenytoin*	An anticonvulsant medication used to prevent seizures	Gingival dizziness
Diltiazem, **Cardizem, Cartia XT**	Medication for chest pain from angina	Gingival
Diovan, *valsartan*	AIIB to lower high blood pressure, and treat congestive heart failure	Dizziness vasoconst anesthetic minimize
Diovan HCT, *HCTZ*	HCTZ to lower high blood	Hypotensi

	pressure and treat congestive heart failure	hypokalen
Diphenoxylate/atropine, **Lomotil**	Medication for adults with symptoms of diarrhea and intestinal spasms	Xerostomi
Ditropan XL, *oxybutynin*	Used for adults with symptoms of overactive bladder	Xerostomi
Divalproex, **Depakote**	Used for the treatment of seizures, bipolar disorder and prevention of migraines	Dizziness, periodonta abnormali
Docusate sodium, **Colace**	Stool softener to treat constipation	None
Dovonex, *calcipotriene* (topical)	Treatment for psoriasis (a skin disease in with red, scaly patches)	None
Doxazosin, **Cardura XL**	For the treatment of high blood pressure and benign enlargement of the prostate	Xerostomi fatigue, dr headache, breath, nau nose, diarr pain, swel hypotensi
Doxepin HCl, **Prudoxin**	Antidepressant	Xerostomi
Doxycycline, **Vibramycin**	Antibiotic for treatment of numerous infections including periodontitis	Glossitis, and oppor candidiasi
Duexis, *ibuprofen and*	NSAID for the relief of	Bleeding

famotidine	signs and symptoms of rheumatoid arthritis and osteoarthritis	
Dulera, *formoterol/mometasone*	Inhaler for the treatment of asthma	Can lower immune sy increase c infection
Duloxetine extended release, **Cymbalta**	SSRI and norepinephrine inhibitor for depression	Xerostomi tiredness,
Duragesic, *fentanyl*	Transdermal patch used for patients with severe chronic pain, for example, the pain of cancer	Hypotensi
Econazole nitrate, **Spectazole**	Antifungal agent: topical	None
Edarbi, *azilsartan/medoxomil*	For the treatment of high blood pressure	Hypotensi
Edluar, *zolpidem*	Sublingual tablet for treatment of insomnia	Dizziness, not to be u CNS depr
Effient, *prasugrel*	Antiplatelet agent in heart and cardiovascular disease	Easy blee headache, pain, min fatigue, na
Elidel, *pimecrolimus* (topical)	Used for the treatment of mild to moderate dermatitis	Respirator infections
Eliquis, *apixaban*	Antiplatelet agent in heart and cardiovascular disease	Easy blee headache, pain, min

		fatigue, na
Elocon, *mometasone furoate*	Corticosteroid lotion used for the relief of itching and skin conditions	Increased concentrat adrenal ins
Enalapril, **Vasotec** *Enalapril with HCTZ*	ACEI to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta cough, diz vomiting; vasoconstr anesthetic hypotensio with HCT increased hypotensio
Enbrel, *etanercept*	Medication for treatment of rheumatoid arthritis	Increased infection
Endocet, *oxycodone/APAP*	Narcotic analgesics and acetaminophen used to relieve pain	Nausea, di
EpiPen, **EpiPen Jr**, *epinephrine*	For anaphylaxis—severe allergic reaction; automatic injector for intramuscular injection into the thigh	For anaph allergic re
Epzicom, **Trizivir**, *abacavir, lamivudine, Zidovudine*	Three antiretroviral drugs combined for treatment of HIV+	Headache, pain, naus tiredness, weakness
Erythromycin, **Akne-Mycin**, **E.E.S.**	Antibiotic	Oral candi

Escitalopram, **Lexapro**	SSRI for major depression or generalized anxiety disorder	Xerostomi insomnia
Esidrix, *HCTZ*	Diuretic commonly used to lower high blood pressure	Hypotensi
Eskalith, *lithium*	Medication used most frequently for bipolar affective disorder (manic-depressive illness)	Fine hand mouth, alt salivary gl enlargeme
Esomeprazole, **Nexium**	Decreases the amount of acid produced in the stomach, treatment of GERD	Nausea
Estradiol, **Alora**	Estrogen replacement therapy by transdermal patch	Headache
Ethinyl estradiol/norethindrone,	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Etodolac, **Lodine**	NSAID medication for pain, arthritis	Abnormal
Evista, *raloxifene*	Estrogen agonist/antagonist prevention of osteoporosis in postmenopausal women at risk for breast cancer	Hot flashe dizziness, sensation, pain, naus upper resp congestio
Evoclin, *clindamycin*	Alternative antibiotic for	—

	amoxicillin for infective endocarditis	
Exelon, *rivastigmine tartrate*	Medication to treat dementia caused by Alzheimer disease	Upset sto loss, weak swelling i joint pain, congestio drowsines headache,
Exforge, *amlodipine /valsartan*	CCB, AIIB for treatment of high blood pressure	Dizziness, sensation, sore throa
Famotidine, **Pepcid**	Decreases the amount of acid produced in the stomach, treatment of GERD	Dizziness,
Famvir, *famciclovir*	Antiviral medication for herpes zoster (shingles), herpes labialis, genital herpes	Headache patients, n of patient
Felodipine, **Plendil**	For the management of high blood pressure and congestive heart failure	Gingival headache patients
Femara, *letrozole*	Chemotherapy for breast cancer	Numerous
Fenofibrate, **Lipidil**	Medication that lowers cholesterol and triglycerides	Xerostom disorder
Fentanyl transdermal,	Narcotic pain reliever,	Hypotens

Duragesic	transdermal	
Ferrous sulfate, **Feosol**	Supplement for iron deficiency anemia	Liquid Fe
Fexofenadine, **Allegra** *with pseudoephedrine* **Allegra-D**	An antihistamine used to treat the signs and symptoms of allergy	Xerostomi headache,
Flecainide acetate, **Tambocor**	Medication used to treat irregular heartbeat	Dizziness patients
Flomax, *tamsulosin*	Treatment of men who are having difficulty urinating due to enlarged prostate	Orthostati
Flonase, **Flovent**, *fluticasone*	Topical corticosteroid used for the control of the symptoms of allergic rhinitis (stuffy nose)	Oral candi
Fluconazole, **Diflucan**	Antifungal used to treat oral, esophageal, urinary, vaginal infections caused by the fungus *Candida*	Dizziness,
Fluocinonide, **Lidex** (topical)	Treatment for psoriasis (a skin disease in with red, scaly patches)	None
Fluoxetine, **Prozac**	Medication for treatment of depression	Oral candi xerostomi nausea; ca bruxism
Fluticasone and salmeterol, **Advair**	Inhaled drug that is used to treat asthma, chronic	Xerostomi respiratory

	bronchitis, or emphysema	
Fluvastatin, **Lescol**	Treatment to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Fluvoxamine, **Luvox**	SSRI for treatment of depression and OCD	Xerostomi
Focalin XR, *dexmedetomidine*	For treatment of ADHD	Xerostomi
Folvite, *folic acid*	Vitamin: water soluble	None
Foradil Aerolizer, *formoterol fumarate*	Adjunct temporary therapy for out of control asthma; maintenance therapy for COPD	Viral infec bronchitis exacerbati
Forteo, *teriparatide*	Parathyroid hormone for osteoporosis	Tooth disc
Fortesta, *testosterone* (topical)	Testosterone gel for topical treatment of hypogonadism in men	Ankle swe
Fosamax, *alendronate*	Used for the treatment of persons with osteoporosis	Possibility osteonecro
Fosamax Plus D, with vitamin D	Used for the treatment of persons with osteoporosis	Possibility osteonecro
Fosinopril, **Monopril** *Fosinopril with HCTZ*	ACEI/HCZT to treat high blood pressure and heart failure and for preventing kidney failure due to high	Altered ta nausea, vo minimize vasoconst

	blood pressure and diabetes	anesthetic hypotensi with HCT increased hypotensi
Furosemide, **Lasix**	Diuretic used to treat high blood pressure and congestive heart failure	Orthostati hypokalen
Fuzeon, *enfuvirtide*	Antiretroviral agent: HIV-1	Xerostomi
Gabapentin, **Neurontin**	Anticonvulsant (used to prevent seizures)	Xerostomi
Gatifloxacin, **Tequin, Zymar**	Antibiotic for the bacterial infections	Oral candi
Gemfibrozil, **Lopid**	Medication used to lower triglycerides	None kno
Geodon (oral), *ziprasidone*	Antipsychotic used to treat schizophrenia, bipolar disorder with or without psychosis	Xerostomi tooth diso edema
Gleevec, *imatinib*	Chemotherapy for sarcomas, leukemia	Numerous
Glimepiride, **Amaryl**	Oral drug for the control of diabetes	Hypoglyc nausea; if poorly co increased periodonti
Glipizide, **Glucotrol**	Oral drug for the control of diabetes	Hypoglyc nausea; if

		poorly co increased periodonti
Glipizide/metformin	Combination of oral drugs for the control of diabetes	Hypoglyc nausea; if poorly co increased periodonti
Glucagon, **GlucaGen**	Emergency treatment for unconscious diabetic patients in insulin shock	Available form; ther oral admi patients w conscious.
Glucophage XR, *metformin*	Oral drug for the control of type II diabetes	Oral candi taste, hypo dizziness, diabetes is controlled of periodo
Glucotrol, *glipizide*	Oral drug for the control of type II diabetes	Hypoglyc nausea; if poorly co increased periodonti
Glucovance, *glyburide/metformin*	Oral drug for the control of type II diabetes	Hypoglyc nausea; if poorly co increased periodonti

Glyburide, **DiaBeta**	Oral drug for the control of type II diabetes	Hypoglyc nausea; if poorly co increased periodonti
Glyburide/metformin, **Glucovance**	Oral drug for the control of type II diabetes	Hypoglyc nausea; if poorly co increased periodonti
Griseofulvin, **Gris-PEG**	Antifungal drug for infections of the skin or nails caused by fungi	Mouth/to thrush
Guaifenesin, **Tussin, Fenesin**	Cough medicine and expectorant that loosens phlegm	None
Guanethidine, **Ismelin**	Medication to lower high blood pressure	Hypotensi
Haloperidol, **Haldol**	Used for treating psychotic disorders and for tics and vocal utterances of Tourette syndrome	Gingival xerostomi sudden m head, neck involunta mouth/ton orthostati
Harvoni, *ledipasvir/sofosbuvir*	Antiviral drug to treat chronic hepatitis C	Fatigue, h nausea, di insomnia
HCTZ, **Esidrix**	HCTZ diuretic for lowering	Hypokale

	high blood pressure and treating congestive heart failure	normal lev potassium hypotensi
Herceptin, *trastuzumab*	Breast cancer drug given after chemotherapy	Altered se mouth sor cold symp vomiting, muscle/joi
Humalog, *insulin preparation*	Injectable insulin for diabetes	Respirator infection, sore throa poorly co increased periodonti
Human Insulin NPH, *insulin*	Injectable insulin for diabetes	Respirator infection, sore throa poorly co increased periodonti
Humira, *adalimumab*	Medication for treatment of rheumatoid arthritis, Crohn disease	Nausea; ru nose
Humulin 70/30, *insulin*	Injectable insulin for diabetes	Oral candi respiratory hypoglyce throat; if d poorly co increased periodonti

Hydralazine, **Apresoline**	Medication for treatment of severe high blood pressure	Hypotensi
Hydrocodone/ibuprofen, **Reprexain, Vicoprofen**	Narcotic combined with NSAID for moderate to severe pain	Xerostomi nausea, vo
Hydrocodone with APAP, **Vicodin**, **Lortab**	Narcotic combined with acetaminophen for pain	Xerostomi nausea, vo
Hydrocortisone, **Solu-Cortef**	Corticosteroid: anti-inflammatory agent	Infection, taken long
Hydromorphone HCl, **Dilaudid**	Narcotic medication for severe pain	Hypotensi vomiting
Hydroxychloroquine sulfate, **Plaquenil**	Used to treat acute attacks of malaria; also used to treat lupus erythematosus and rheumatoid arthritis in patients whose symptoms have not improved with other treatments	Nausea, di headache, problems
Hydroxyzine, **Atarax**, **Vistaril**	Antihistamine to treat allergic reactions; antianxiety agent used as a preoperative sedative	Xerostomi
Hyoscyamine, **Anaspaz**	Medication to stop spasms of the intestines associated with diarrhea with irritable bowel syndrome	Xerostomi
Hyzaar, *losartan/HCTZ*	AIIB/HCTZ combination of two medications to lower	Hypotensi

	high blood pressure	
Ibuprofen, **Motrin, Advil**	NSAID for relief of mild-to-moderate pain	Xerostomi drowsines heartburn,
Imipramine HCl, **Tofranil-PM**	Treatment for depression	Xerostomi
Imitrex, *sumatriptan*	Medication for relief of migraine headaches	Bad taste, mouth/ton
Incruse Ellipta, *umeclidinium*	Anticholinergic inhaler for obstructed airflow in COPD	Respirator cough, sor pain, musc pain, stom bruising o skin, and f heartbeat
Indapamide, **Lozol**	Diuretic to lower blood pressure and treat congestive heart failure	Xerostomi palpitation
Inderal LA, *propranolol*	BB medication used to lower high blood pressure and prevent angina, tremor, arrhythmias	Hypotensi use of vas local anes
Indinavir, **Crixivan**	Antiviral agent for treatment of HIV+	Headache, pain, naus tiredness, weakness
Indomethacin, **Indocin**	NSAID for relief of mild to moderate pain	Xerostomi dizziness, nausea, he

		increased tendency
InnoPran XL, *propranolol extended release*	BB with extended release used to lower high blood pressure and prevent angina, tremor, arrhythmias	Feeling fa irregular h minimize vasoconstr anesthetic
Insulin preparations, **Humalog**	Injectable insulin for diabetes	Respirator infection, sore throa poorly cor increased periodonti
Invokamet, *canagliflozin/metformin*	Combination of two oral medications to treat diabetes	Hypoglyc nausea; if poorly cor increased periodonti
Invokana, *canagliflozin*	Oral medication to treat diabetes	Hypoglyc nausea; if poorly cor increased periodonti
Ipratropium/albuterol, **Combivent**	Inhaler for respiratory diseases	Xerostom
Ipratropium bromide, **Atrovent**	Inhaler used for chronic bronchitis and emphysema	Xerostom nervousne
Irbesartan, **Avapro** *Irbesartan with HCTZ*	Medication used to lower high blood pressure and	Dizziness; of vasocor

	relieve symptoms of congestive heart failure	local anes HCTZ: hy increased hypotensi
Isocarboxazid, **Marplan**	One of four monoamine oxidase inhibitors (MAOIs) for generalized depression that does not respond to other antidepressants	Dizziness, hypotensi interacts w and canno local anes vasoconst
Isosorbide dinitrate, **Isordil**	CCB for angina, high blood pressure, rapid heart rhythm	Gingival dizziness
Isosorbide/mononitrate, **Imdur**	Medication to prevent angina attacks	Headache
Isotretinoin, **Accutane**	A strong vitamin A oral medication used to treat acne when other medications are not effective	Causes se birth defe causes dep
Itraconazole, **Sporanox**	Antifungal agent used in immunocompromised patients with oropharyngeal candidiasis	None
Janumet, *sitagliptin/metformin*	Combination of two oral medications for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Januvia, *sitagliptin*	Oral medication for diabetes	Hypoglyc nausea; if

		poorly co increased periodonti
Jardiance, *empagliflozin*	Oral medication for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Kadian, *morphine sulfate*	Narcotic medication for severe pain	Hypotensi vomiting
Kaletra, *lopinavir*, *ritonavir*	Antiretroviral drug for treatment of HIV+	Headache pain, naus tiredness, weakness
Kapidex, *dexlansoprazole*	Medication for erosive esophagitis and GERD	Swelling cheeks (ca fainting,
Kapvay, *clonidine HCl*	Medication for treatment of ADHD	Dizziness, xerostomi severe rea candidiasi
K-Dur, **Klor-Con**, *potassium chloride*	Electrolyte supplement: to prevent potassium depletion (hypokalemia)	Xerostomi
Keppra, *levetiracetam*	An antiseizure medication (anticonvulsant) used to prevent seizures	Gingival dizziness
Ketoconazole, **Nizoral**	Antifungal agent used to	Numerous

	treat fungal infections such as oral candidiasis	interactio
Kombiglyze XR, *metformin, saxagliptin*	Extended release medication for type II diabetes	Stress-ind hypoglyce
Labetalol HCl, **Trandate**	Treatment for high blood pressure	Hypertens heart rate
Lamictal, *lamotrigine*	Anticonvulsant medication to prevent seizures	Xerostomi
Lamisil, *terbinafine*	Antifungal drug for ringworm/athlete's foot	Taste distu
Lanoxin, *digoxin*	Used to treat congestive heart failure	Hypotensi
Lansoprazole, **Prevacid**	Reduces stomach acid production	Xerostomi candidiasi aphthous stomatitis
Lantus, *insulin glargine*	Insulin for type I diabetes	Hypoglyc
Lasix, *furosemide*	Diuretic used to treat high blood pressure and congestive heart failure	Orthostati
Latanoprost, **Xalatan**	Ophthalmic agent (eye preparation) for treatment of glaucoma	None
Latuda, *lurasidone*	Antipsychotic drug to treat schizophrenia	Drowsines nausea, di pain, loss shaking, n

		weight gai facial expr to keep sti agitation,
Leflunomide, **Arava**	Medication for rheumatoid arthritis	Sore mout candidiasi taste, toot gingivitis
Lescol XL, *fluvastatin sodium*	STATIN to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Levalbuterol, **Xopenex**	Nebulizer bronchodilation treatment for asthma	Headache xerostomi muscle pa
Levaquin, *levofloxacin*	Antibiotic for treatment of sinusitis, urinary tract infections	Oral candi
Levemir, *insulin detemir*	Injectable insulin for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Levitra, *vardenafil*	Medication for erectile dysfunction	**If patient —no nitr should be**
Levonorgestrel/ethinyl estradiol, **Aviane**	Birth control	Antibiotic dental inf

		decrease t of oral co
Lexapro, *escitalopram*	SSRI treatment of major depression and generalized anxiety disorder	Xerostom insomnia
Linzess, *linaclotide*	Medication to treat constipation in irritable bowel syndrome	Diarrhea, bloating, vomiting, stuffy nos sinus pain
Lipitor, *atorvastatin*	STATIN to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympt stomach p loss of ap
Lisinopril, **Prinivil**, **Zestril**	Used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo vasoconst anesthetic minimized hypotensi
Lisinopril/HCTZ combination	Used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo vasoconst anesthetic minimized hypotensi
Lithium, **Eskalith**, **Lithobid**	Used most frequently for bipolar affective disorder	Fine hand mouth, alt

	(manic-depressive illness)	salivary gl enlargeme
Livalo, *pitavastatin*	Treatment to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
L-Norgestrel/ethinyl estradiol	Birth control	Antibiotic dental infe decrease t of oral co
Loestrin Fe, *ethinyl estradiol and norethindrone*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Loratadine, **Claritin** *Loratadine/pseudoephedrine*, **Claritin-D**	Antihistamine for allergies	Xerostomi tachycardi
Lorazepam, **Ativan**	Benzodiazepine for anxiety; also a sleep aid	Xerostomi
Losartan, **Cozaar**	Used to treat high blood pressure, congestive heart failure	Xerostomi use of vas local anes minimized
Losartan/HCTZ, **Hyzaar**	Used to treat high blood pressure, congestive heart failure	Xerostomi use of vas local anes minimized

Lotensin, *benazepril*	Used to treat high blood pressure and congestive heart failure	Altered ta nausea, vo vasoconstr anesthetic minimize hypotensi
Lotrel, *amlodipine*, *benazepril*	Medication used to lower high blood pressure	Altered ta hypotensi fatigue, he vomiting; vasoconstr anesthetic minimize
Lovastatin, **Altoprev**, **Mevacor**	Treatment to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of ap
Lovaza, *omega-3-acid ethyl esters*	Prescription level of omega-3 fish oil for the treatment of high triglyceride blood levels	Burping, i
Low-Ogestrel, *norgestrel/estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Lumigan, *bimatoprost*	Ophthalmic agent (eye preparation) for treatment of glaucoma	None

Lunesta, *eszopiclone*	Sleep aid for insomnia	Bad taste,
Lyrica, *pregabalin*	Medication for either fibromyalgia or prevention of seizures in epilepsy	Xerostomi
Macrobid, *nitrofurantoin*	Antibiotic	Nausea
Maxalt-MLT, *rizatriptan*	Medication for migraine headaches and symptoms	Xerostomi
Meclizine, **Antivert**, **Bonine**	Used for the treatment of nausea, vomiting, and dizziness	Xerostomi
Medroxyprogesterone, **Provera**	Birth control (oral contraceptives)	May cause bleeding
Meloxicam, **Mobic**	NSAID for relief of mild to moderate pain	Oral ulcer
Mercaptopurine, **Purinethol**	Chemotherapy for leukemia	Stomatitis
Metaxalone, **Skelaxin**	Skeletal muscle relaxant	Dizziness
Metformin, **Glucophage**	Medication for type II diabetes	Stress-ind hypoglyce
Methadone HCl, **Dolophine**	Narcotic for moderate to severe pain	Xerostomi
Methocarbamol, **Robaxin**	Skeletal muscle relaxant	Metallic t
Methotrexate, **Rheumatrex**	Used to treat rheumatoid arthritis, severe psoriasis and also for some cancers	Ulcerative glossitis,
Methylphenidate HCl, **Ritalin**	A stimulant to treat ADHD,	Fast, unev

	narcolepsy	headache, restlessnes
Methylprednisolone, **Medrol**, **Solu-Medrol**	Corticosteroid, systemic: anti-inflammatory, immunosuppressant	Ulcerative Adrenal in taken long
Metoclopramide, **Reglan**	Used short term for persistent heartburn	Xerostomi
Metolazone, **Zaroxolyn**	Diuretic for lowering high blood pressure	Hypotensi
Metoprolol, **Lopressor**	For lowering high blood pressure	Hypotensi
Metronidazole, **Flagyl**	Amebicide (a substance used to kill or capable of killing amebas); antibiotic	Xerostomi mouthwas alcohol
Miacalcin, *calcitonin*	A hormone that prevents bone resorption	Nasal infl 12% of pa
Microgestin FE, *norethindrone/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral cor this medic
Midodrine, **Amatine**	Medication for treatment of fainting spells	Xerostomi
Minocycline, **Dynacin**	Broad-spectrum antibiotic, also used to treat periodontitis associated with *Actinobacillus actinomycetemcomitans*	Dizziness, oral candi discolorati used in pa years of ag

MiraLAX, *polyethylene glycol 3350*	Laxative	Nausea, w stomach c
Mirapex, *Pramipexole*	Medication for Parkinson disease	Xerostomi
Mircette, *estradiol/desogestrel*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Mirtazapine, **Remeron**	For treatment of depression	Xerostomi
Mobic, *meloxicam*	NSAID for relief of mild to moderate pain	Oral ulcer
Moexipril, **Univasc**, *moexipril with HCTZ*	ACEI/HCTZ used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta cough, diz vomiting; vasoconstr angioeden combined hypokalen risk of hy
Mometasone, **Elocon**, **Nasonex**	Topical corticosteroid: two types (topical, inhaled)	Xerostomi
Monopril, *Fosinopril*	ACEI used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo minimize vasoconstr anesthetic hypotensio
Montelukast, **Singulair**	Oral medication used for the	Dizziness,

	treatment of asthma and seasonal allergic rhinitis	
Morphine sulfate, **Astramorph/PF**	Opioid medication for pain relief	Xerostomi
Multivitamins with fluoride	Vitamin supplement	Refer to i vitamins
Myrbetriq, *mirabegron*	Medication to treat urinary incontinence in women	Sinus pain sore throa constipati memory is joint pain, blurred vis stomach p
Nabumetone, **Relafen**	NSAID pain medication for rheumatoid arthritis and osteoarthritis	Xerostomi
Nadolol, **Corgard**	BB for lowering high blood pressure	NSAIDs i hypotensiv
Namenda, *memantine*	Medication for Alzheimer	Dizziness,
Naproxen, **Aleve, Anaprox**	NSAID analgesic used mostly for arthritis	Bleeding
Nasacort AQ, *triamcinolone*	Corticosteroid: anti-inflammatory nasal, oral topical, inhalation administration; use: lichen planus, aphthous, stomatitis	None
Nasonex, *mometasone*	Corticosteroid: topical, inhaled	None

Necon, *ethinyl estradiol, norethindrone*	Birth control	Antibiotic dental inf decrease of oral co
Nefazodone, **Serzone**	Serotonin moderator used for depression	Xerostom dizziness, damage
Neulasta *pegfilgrastim*	Increases white blood cells to improve immune system during chemotherapy	Bone pain or legs
Neupogen, *Filgrastim*	For treatment of leukemia	
Neurontin, *gabapentin*	Anticonvulsant to prevent seizures	Xerostom problems
Nexium, *esomeprazole*	Medication to lower acid production in the stomach for treatment of GERD	Xerostom
Niacin extended release	Cholesterol-lowering medication	Flushing
Niaspan, *niacin*	Cholesterol-lowering medication	Flushing
Nicotine transdermal, **Nicorette**	Smoking cessation aid, patch or gum	Numerous gum
Nifediac CC, *nifedipine* (**NOT** for emergencies)	CCB for the treatment of angina, and high blood pressure	Gingival
Nifedical XL, *nifedipine*	CCB for the treatment of	Gingival

(**NOT** for emergencies)	angina, and high blood pressure	
Nifedipine, **Procardia**	CCB for the treatment of angina, and high blood pressure	Gingival h
Nitrofurantoin, **Macrobid**	Antibiotic	None kno
Nitroglycerin, **Nitrostat**, **NitroQuick (EMERGENCY DRUG)**	Medication that is placed under the tongue for angina attacks	Xerostomi call emerg services (relief in 2
Norethindrone, **Aygestin**	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Nortriptyline, **Pamelor**	TCA for treatment of depression	Hypotensi
Norvasc, *amlodipine*	For treatment of high blood pressure and congestive heart failure	Gingival h involuntar contractio changes i heart rate
Norvir, *ritonavir*	Antiretroviral agent for HIV+	Xerostomi perversion
Novolin 70/30 **Novolin N** **Novolin R**	Injectable insulin for diabetes	Hypoglyc nausea; if poorly co increased periodonti

NovoLog, *insulin aspart protamine*	Injectable insulin for diabetes	Hypoglyc nausea; if poorly co increased periodont
NovoLog Mix 70/30	Injectable insulin for diabetes	Hypoglyc nausea; if poorly co increased periodont
NuvaRing, *Etonogestrel/Ethinyl estradiol*	Birth control (vaginal transmucosal)	None
Nystatin, **Mycostatin**	Antifungal agent: candidiasis	Avoid occ
Nystatin-triamcinolone, **Mycolog**	Antifungal with corticosteroid for cheilitis, cutaneous candidiasis	Avoid occ
Olanzapine/fluoxetine, **Zyprexa**	Antidepressant/antipsychotic for depression with bipolar episodes	Xerostom disorder,
Oleptro, *trazodone extended release*	Medication for treatment of depression	Xerostom nausea, hy
Olysio*, simeprevir*	Medication to treat chronic hepatitis C infection	Skin rash, muscle pa indigestio
Omeprazole, **Prilosec**	Reduces stomach acid production for treatment of GERD	Xerostom candidiasi atrophy

Omnicef, *Cefdinir*	Antibiotic for sinusitis and ear infections	Nausea, v headache
Onglyza, *saxagliptin*	Oral medication for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Oravig, *miconazole* (buccal)	Buccal adhesive for oropharyngeal candidiasis	Dizziness, xerostomi
Orencia, *abatacept*	Medication to treat the symptoms of rheumatoid arthritis and prevent joint damage	Headache, diarrhea, s dizziness, throat, col back pain
Ortho Evra, *norelgestromin/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Ortho-Novum, *norethindrone estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Ortho Tri-Cyclen Lo, *norgestimate, ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease e oral contr
Oxandrin, *oxandrolone*	Medication to help underweight patients to gain weight	Also for p osteoporo

Oxybutynin chloride, **Ditropan**	Bladder control medication for adults with symptoms of overactive bladder	Xerostomi nausea
Oxycodone/APAP, **OxyContin**	Narcotic for moderate to severe pain also contains acetaminophen	Xerostomi nausea
OxyContin, *oxycodone*	Narcotic for moderate to severe pain	Xerostomi nausea
Pantoprazole, **Protonix**	Reduces stomach acid production for treatment of GERD	Headache
Paroxetine, **Paxil, Paxil CR**	Medication for depression and general anxiety disorder	Xerostomi
Patanol, *olopatadine*	Medication for allergic conjunctivitis of eye	Xerostomi
Pegasys, *peginterferon alfa-2a*	For treatment of hepatitis C	Fatigue, h and joint p
Penicillin V potassium, **Pen VK**	Antibiotic, penicillin: not for prevention of infectious endocarditis	Oral candi
Percocet, *oxycodone, acetaminophen*	Narcotic with acetaminophen for moderate to severe pain	Xerostomi nausea
Perindopril erbumine, **Aceon**	Used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood	Altered ta cough, diz vomiting; vasoconstr

	pressure and diabetes	anesthetic hypotensi
Phenazopyridine, **Pyridium** *Phenelzine*	Medication for pain relief from urinary tract infections One of only four available MAOIs available for treatment of depression or Parkinson disease	Temporari an orange MAOI: las no other a effective. drugs incl vasoconstr cause hyp
Phenergan, *promethazine*	Medication for treatment of nausea and motion sickness	Hypotensi
Phenobarbital, **Lumina**	An antiseizure medication (anticonvulsant) used to prevent seizures	Bradycard
Phenytoin, **Dilantin**	An antiseizure medication (anticonvulsant) used to prevent seizures	Gingival h
Pioglitazone, **Actos**	Oral medication used to treat diabetes	Stress-ind hypoglyce
Pioglitazone, *metformin*	Combination of two oral medications for diabetes	Hypoglyc nausea; po diabetes in periodonti
Pindolol, **Visken**	BB for treatment of high blood pressure, angina, tremor, arrhythmias	Feeling fa irregular h
Plavix, *clopidogrel*	A medication that reduces	Bleeding

	the clumping of platelets in the blood; reduces risk of heart attack and stroke	
Plendil, *felodipine*	For the management of high blood pressure and congestive heart failure	Gingival h headache
Polyethylene glycol, **GlycoLax**	Laxative	Nausea
Potassium chloride, **K-Dur**	Electrolyte supplement to prevent potassium depletion (hypokalemia)	Xerostomi
Pradaxa, *dabigatran*	Anticoagulant to preventing clotting and stroke	Bruising, nausea, st stomach h nausea, di rash, or it
Pravachol, *Pravastatin*	Medication to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympt stomach p loss of ap
Prednisone, **Deltasone**	Corticosteroid to treat a variety of diseases, inflammation	Infection, insufficie term
Premarin, *conjugated estrogens*	Hormone replacement therapy	Nausea, si
Prempro, *medroxyprogesterone*	Hormone replacement therapy	Nausea, si
Prevacid, *lansoprazole*	Reduces stomach acid	Xerostomi

	production for treatment of GERD	candidiasi aphthous u stomatitis
Prezista, *darunavir*	Antiviral medication for the treatment of HIV+	Diarrhea, r vomiting, stomach p headache
Primidone, **Mysoline**	Anticonvulsant for prevention of seizure and benign familial tremor	Overexcit vomiting
Prinivil, *lisinopril*	Used to treat high blood pressure and congestive heart failure	Altered ta hypotensio fatigue, he vomiting; epinephrin levonorde anesthetic minimized
Pristiq, *desvenlafaxine*	SSRI and serotonin norepinephrine reuptake inhibitor (SNRI) used to treat major depressive disorder	Sweating, drowsines insomnia, tightness i nausea
ProAir HFA, *albuterol*	Inhaler for bronchodilation in prevention of bronchospasm	Xerostomi body ache upset stom headache, tract infec
ProAir RespiClick, *albuterol*	Inhaler for bronchodilation	Xerostomi

sulfate	in prevention of bronchospasm	body ache upset stom headache, tract infec
Procrit, *epoetin alfa*	Used to treat anemia associated with kidney failure, HIV patients undergoing treatment, cancer patients undergoing therapy	High bloo water rete rapid hear
Prograf, *tacrolimus* (topical)	Ointment for skin rash	Headache,
Prolia, *denosumab*	Used to osteoporosis in women after menopause	Weakness muscle pa and legs, a diarrhea, c like eczem
Promethazine, **Phenergan**	Medication for treatment of nausea and motion sickness	Hypotensi
Promethazine/codeine, **Prothazine DC**	Antihistamine/decongestion for upper respiratory cold, flu	Fast heart muscle co xerostomi
Prometrium, *progesterone*	Hormone replacement therapy for menopause	Gingival b
Propafenone, **Rythmol**	Medication for treatment of irregular heartbeat	Xerostomi
Propranolol, **Inderal**	Medication for treatment of high blood pressure, angina, tremor, arrhythmias	Feeling fa irregular h

Proscar, **Propecia**, *finasteride*	Medication for treatment of male pattern baldness	Hypotensi
Protonix, *pantoprazole*	Reduces stomach acid production for treatment of GERD	Headache
Provigil, *modafinil*	Medication for treatment of daily drowsiness (narcolepsy)	Xerostomi gingivitis
Prozac, *fluoxetine*	Medication for treatment of depression	Oral candi xerostomi nausea; ca bruxism
Pulmicort, *budesonide*	Inhaler for prevention of asthma	Oropharyn candidiasi
Pulmozyme, *dornase alfa*	Enzyme for treatment of cystic fibrosis	Sore throa inflammat
Quinapril, **Accupril** *Quinapril with HCTZ*	ACEI/HCTZ combination to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo minimize vasoconstr angioeden hypokalen
Qvar, *beclomethasone dipropionate*	CORT inhaler for maintenance of asthma	Candidias throat; pat and spit ou inhalation
Rabeprazole, **AcipHex**	Acid blocker for treatment of heartburn and GERD	Xerostomi nausea, di

		nervousne
Raloxifene, **Evista**	Estrogen agonist/antagonist prevention of osteoporosis in postmenopausal women at risk for breast cancer	Hot flashe dizziness, sensation, pain, naus upper resp congestio
Ramipril, **Altace**	Used to treat high blood pressure, heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, v minimize vasoconstr anesthetic hypotensi
Ranexa, *ranolazine*	**Medication to treat chronic angina**	Nausea; v stomach p xerostomi tinnitus; s hands, ank irregular h tremors; b urine; and breath
Ranitidine HCl, **Zantac**	Stomach acid blocker for GERD	Drowsines nausea
Relpax, *eletriptan*	Medication for relief of migraine headaches and symptoms	Headache pain in ja throat
Remeron, *mirtazapine*	Medication for treatment of depression	Xerostomi

Renagel, sevelamer	Prevents calcium depletion in patients with kidney disease and undergoing hemodialysis	Nausea, v stomach p
Renvela, *sevelamer carbonate*	To reduce phosphorus blood levels in chronic kidney disease in patients on dialysis	Headache, stomach u gas, consti
Repaglinide, **Prandin**	Oral medication for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Requip, *ropinirole*	Medication for treatment of Parkinson disease	Xerostomi
Restasis, **Sandimmune**, *cyclosporine*	Immunosuppressant in organ transplant	Gingival h lesions
Revlimid, *lenalidomide*	Treatment of patients with anemia and multiple myeloma	Nausea, di constipati skin, nasal muscle or headache,
Reyataz, *atazanavir sulfate*	Antiretroviral drug for HIV infection	Feeling fa sore throa like sympt
Rhinocort Aqua, *budesonide*	CORT inhaler/spray: asthma	Oropharyn candidiasi
Ribavirin, **Copegus**	Medication that controls	Xerostomi

	symptoms by reducing the number of viruses in hepatitis C patients	perversion headache, symptoms
Rituxan, *rituximab*	Combined with other cancer drugs to treat non-Hodgkin lymphoma; Rituxan is also combined with methotrexate to treat rheumatoid arthritis.	Headache, stomach p night swea muscle or pain, dizzi
Risperdal, *risperidone*	Antipsychotic medication for schizophrenia, mania	Hypotensi
Rosiglitazone maleate, **Avandia**	Oral medication for type II diabetes	Stress-ind hypoglyce
Roxicet, *oxycodone*, *APAP*	Narcotic pain reliever combined with acetaminophen	Nausea, se xerostomi
Salmeterol, **Serevent**	Inhaler for asthma	Xerostomi oropharyn
Salmeterol/fluticasone, **Flonase**	CORT inhaler that for treatment of asthma	Xerostomi oropharyn
Savella, milnacipran	Medication for the management of fibromyalgia	Dizziness, headache, sweating, vomiting
Sensipar, *cinacalcet*	Medication used to treat hypoparathyroidism (decreased functioning of the parathyroid glands) in people who are on long-term	Numbness around the irregular h dizziness,

	dialysis for kidney disease	
Serevent Diskus, *salmeterol*	Inhaler for asthma and other respiratory conditions	Xerostomi oropharyn
Seroquel, *quetiapine*	Antipsychotic medication for the treatment of schizophrenia manic episodes in bipolar disorder	Xerostomi patches or and inside throat
Sertraline, **Zoloft**	Treatment for depression	Anxiety, n
Sildenafil citrate, **Viagra**	Treatment for erectile dysfunction	**If chest pa nitroglyce**
Silenor, *doxepin*	Sleep aid medication for the treatment of insomnia	Dizziness, nausea
Simcor, *niacin and simvastatin*	STATIN/niacin combination to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app of face
Simvastatin, **Zocor**	STATIN to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Singulair, *montelukast*	Medication for maintenance therapy to prevent asthma attacks	Dizziness,
Skelaxin, *metaxalone*	Skeletal muscle relaxant	Dizziness

SMZ-TMP, **Bactrim**, **Septra**, sulfamethoxazole and trimethoprim	Antibiotic: urinary tract infection	Stomatitis
Sotalol, **Betapace**	Medication for irregular heartbeat	Minimize vasoconst anesthesia
Sovaldi, *sofosbuvir*	Antiviral used to treat chronic hepatitis C	Fatigue, h nausea, in weakness, illness, joi irritability
Spiriva, *tiotropium*	Treatment of bronchospasm in respiratory diseases	Xerostomi stomatitis
Spironolactone, **Aldactazide**	Diuretic to reduce edema in congestive heart failure	Hypotensi
Sprycel, *dasatinib*	Medication to treat leukemia	Headache symptoms mouth sor weight los muscle an nausea, vo diarrhea o
Strattera, *atomoxetine*	Medication for ADHD	Xerostomi
Stribild, *elvitegravir*, *cobicistat*, *emtricitabine*, *tenofovir disoproxil*	Four HIV+ medications in one capsule	Kidney pr problems; distributio neck, imm problems

Suboxone, *buprenorphine/naloxone*	Medication for drug withdrawal	Headache, nausea
Sucralfate, **Carafate**	Liquid for coating duodenal ulcers to help with healing	None
Sumatriptan, **Imitrex**	Medication for relief of migraine headaches	Bad taste, mouth/ton
Sustiva, *efavirenz*	Antiviral agent for HIV-1	Abnormal
Symbicort, *budesonide with formoterol fumarate dihydrate*	Beta$_2$ agonist inhaler for maintenance is asthma uncontrolled by corticosteroid inhalants; maintenance in COPD	Sore throa candidiasi upper resp pain, stom
Symbyax, *fluoxetine and olanzapine*	Combined drugs for the treatment of resistant depression	Dizziness, xerostomi weakness
Synthroid, *levothyroxine*	Thyroid replacement	High bloo
Tamiflu, *oseltamivir phosphate*	Antiviral medication to prevent influenza in people who have been exposed but have no symptoms, and in those with less than 2 days of symptoms.	Nausea, v diarrhea, c headache, redness or insomnia, other resp problems
Tamoxifen, **Nolvadex**	Chemotherapy treatment and prevention of breast cancer	Nausea, v flashes
Tamsulosin, **Flomax**	Improves urinary flow in men with enlarged prostate	Hypotensi

Tarceva, *erlotinib*	Chemotherapy for lung and pancreatic cancer	Nausea, v
Telmisartan, **Micardis** *Telmisartan HCTZ*	AIIB/HCTZ to treat high blood pressure, congestive heart failure	Xerostom use of epi levonorde anesthetic minimize
Temazepam, **Restoril**	Sleep aid for insomnia	Xerostom
Tequin, gatifloxacin	Antibiotic	Taste dist
Terazosin, **Hytrin** *Terbutaline*	Medication to lower high blood pressure	Xerostom
Terconazole, **Terazol**	Antifungal agent: vaginal candidiasis	None
Tetracycline, **Achromycin**, **Sumycin**	Antibiotic for many infections	Candidias tooth stai
Thalomid, *thalidomide*	Medication for multiple myeloma, erythema nodosum leprosum	Xerostom stomatitis
Theophylline, **Slo-Bid**	Treatment for asthma, bronchitis	Nausea, v
Tiazac, **Cardizem**, *diltiazem*	CCB lower blood pressure and prevent angina attack	Gingival
Timolol, **Timoptic**	To lower blood pressure ophthalmic: glaucoma	Xerostom
Tizanidine HCl, **Zanaflex**	Muscle relaxant	Hypotens
Tobradex, *tobramycin*,	Antibiotic/cortisone	None

dexamethasone	ophthalmic (eye) drops	
Tolterodine, **Detrol**	Medication for overactive bladder	Xerostomi
Topamax, *topiramate*	Medication to prevent seizures and migraine headaches	Gingival h to be take women as palate birt
Toprol-XL, *metoprolol*	BB to lower high blood pressure	Hypotensi
Torsemide, **Demadex**	Diuretic for edema	Hypotensi
Toujeo, *insulin glargine*	Injectable insulin for diabetes	Hypoglyc nausea; if poorly co increased periodonti
Tradjenta, *linagliptin*	Oral medication for type II diabetes	Headache runny or s throat
Tramadol, **Ultram**	Narcotic for moderate to severe pain	Xerostomi
Trandolapril, **Mavik**	ACEI to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta cough, diz vomiting; epinephri levonorde anesthetic hypotensi
Tranylcypromine, **Parnate**	One of only four available	MAOI: la

	MAOI available for treatment of depression	no other a effective. drugs incl vasoconstr cause hyp
Travatan, *Travoprost*	Ophthalmic agent: glaucoma	None
Trazodone, **Desyrel**	Treatment for depression	Xerostomi
Tretinoin, **Retin-A** (topical cream)	Treatment for acne, wrinkles	None
Triamcinolone acetonide, **Orabase**	Corticosteroid: anti-inflammatory for lichen planus, aphthous, stomatitis; nasal, oral topical, inhalation	None
Triamterene/HCTZ, **Dyrenium**	Antihypertensive and diuretic for lowering blood pressure	Hypotensi
Tribenzor, *amlodipine/HCTZ/olmesartan*	Combination of three drugs for lowering high blood pressure	Hypotensi hypocalce
Tricor, **Lipidil**, *fenofibrate*	Medication to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Trileptal, *oxcarbazepine*	Medication for prevention of seizures	None know
Trimox, *amoxicillin*	Antibiotic for many infections also to prevent	Prolonged candidiasi

	infective endocarditis	
Co-trimoxazole, **Bactrim**	Antibiotic for infections of the urinary tract, ear, lower respiratory system	Nausea, v
TriNessa, *norgestimate/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Triphasil 21, *levonorgestrel/ ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
TRI-Sprintec, *estradiol/norgestimate*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Trivora-28, *levonorgestrel/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
Trizivir, *Abacavir*, *lamivudine*, *zidovudine*	Three antiretroviral drugs combined for treatment of HIV+	Headache, pain, naus tiredness, weakness
Truvada, *emtricitabine/tenofovir*	Antiretroviral drug for HIV+	Headache, pain, naus tiredness, weakness

Tussionex, *hydrocodone/chlorpheniramine*	Antihistamine/antitussive: cough medicine	Xerostomi
Ultram, *tramadol*	Narcotic for moderate to severe pain	Xerostomi
Ursodiol, **Actigall**	Gallstone dissolution agent	None
Valacyclovir, **Valtrex**	Antiviral agent: herpes I, II, herpes zoster (shingles)	Xerostomi
Valsartan, **Diovan**, *Valsartan, HCTZ*	For lowering high blood pressure	Hypotensi hypokalen
Valturna, *aliskiren /valsartan*	For lowering high blood pressure	Hypotensi headache, joint pain,
Veetids, *penicillin VK*	Antibiotic, penicillin—**not** for prevention of infective endocarditis	Oral candi
Venlafaxine, **Effexor**	For depression	Xerostomi
Ventolin HFA, *albuterol sulfate*	BRNC medication in inhaler for asthma	Xerostomi
Verapamil, **Calan**, **Isoptin**	For lowering blood pressure and preventing angina attack	Gingival h
Viagra, *sildenafil citrate*	Erectile dysfunction	**If chest p nitroglyce**
Vicoprofen, *hydrocodone/ibuprofen*	Narcotic and NSAID combination for pain relief	Xerostomi
Victoza	Noninsulin injectable medication for treatment of	Headache, upset stom

	diabetes	symptoms tired feeli
Vigamox, *moxifloxacin*	Antibiotic eye drops	Xerostomi stomatitis
Viibryd, *vilazodone*	Medication for depression; adjunct therapy to lithium for bipolar I	Dizziness, insomnia, twitching
Vimovo, *naproxen/esomeprazole*	Combination of medications to treat pain while preventing gastroesophageal reflux	Bleeding
Viramune XR, *nevirapine*	Combination of antiviral agents for HIV+	Liver prob nausea, dr
Viread, *tenofovir*	Antiretroviral agent for HIV+	Headache, pain, naus tiredness, weakness
Vivelle-DOT, *estradiol transdermal patch*	Hormone replacement therapy (skin patch)	None
Vytorin, *ezetimibe/simvastatin*	Treatment to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Vyvanse, *lisdexamfetamine*	For treatment of ADHD in adolescents	Fast poun heartbeat, nervousne
Warfarin, **Coumadin**,	Anticoagulant helpful in	Ulceration

Coumarin	preventing blood clot formation in patients with atrial fibrillation and artificial heart valves to reduce the risk of strokes	bleeding t medical c
Welchol, *colesevelam hydrochloride*	Reduces cholesterol levels and helps control glucose level in type II diabetes	Constipati upset, flu- muscle pa
Wellbutrin, *bupropion HCl*	Medication for depression	Hypotensi
Xalatan, *latanoprost*	Ophthalmic agent: glaucoma	None
Xeloda, *capecitabine*	Chemotherapy for colon/breast cancer	Stomatitis
Xopenex *levalbuterol*	BRNC inhaler for asthma, bronchitis, emphysema	Headache, anxiety, sh dizziness, insomnia, sore throa upset, diar pain, coug congestion
Yasmin 28, *drospirenone/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co
YAZ, *drospirenone/ethinyl estradiol*	Birth control (oral contraceptive)	Antibiotic dental infe decrease t of oral co

Zafirlukast, **Accolate**	Maintenance therapy for asthma	Headache, dizziness, muscle pa
Zegerid OTC, *omeprazole and sodium bicarbonate*	Combination medications for treatment of heartburn	Headache stomach p
Zelnorm, *tegaserod*	Medication for treatment of constipation in irritable bowel syndrome	Nausea
Zestril, Prinivil, *Lisinopril*	Used to treat high blood pressure and heart failure and for preventing kidney failure due to high blood pressure and diabetes	Altered ta nausea, vo epinephrin levonorde anesthetic minimized hypotensio
Zetia, *ezetimibe*	Medication to lower high cholesterol to prevent coronary artery disease	Muscle pa headache
Zithromax, **Z-Pak**	Antibiotic	Nausea, h
Zocor, *simvastatin*	Treatment to lower high cholesterol to prevent coronary artery disease	Muscle pa or weakne flu sympto stomach p loss of app
Zofran, *ondansetron*	Medication for prevention and treatment in nausea from chemotherapy	Xerostomi
Zoloft, *sertraline*	Medication for depression	Anxiety, i

Zolpidem, **Ambien**	Sleep aid	Xerostomi lightheade fatigue, w increased
Zomig, *zolmitriptan*	Medication for migraine headaches and symptoms	Xerostomi
Zonisamide, **Zonegran**	Medication to prevent seizures	Xerostomi
Zyprexa, *olanzapine*	Medication for depression, an antipsychotic for depression with bipolar episodes	Xerostomi disorder, a
Zyrtec, *cetirizine HCl* (syrup or tablet)	Antihistamine: allergic rhinitis	Xerostomi
Zyvox, *linezolid*	Antibiotic, oxazolidinone: vancomycin-resistant infections, such as Methicillin-resistant *Staphylococcus aureus* (MRSA)	Discolore taste

Ready Reference 6-2 adapted with permission from Cynthia Biron Leisica, DH Meth-Ed.

MODULE

7

DENTAL HEALTH HISTORY

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MODULE OVERVIEW

The dental health history provides information about the patient’s past and present dental experiences. The information gathered with the dental history allows the clinician to determine whether treatment alterations are necessary for the patient to undergo dental treatment safely. This module reviews the kinds of information commonly found on dental health history questionnaires.

MODULE OUTLINE

SECTION 1	**Adult Dental Health History Questionnaire** Questionnaire Format Reason for Appointment Previous Dental Experiences Dental Concerns Existing Dental Conditions

Daily Self-care
Dietary Habits

SECTION 2 Children's Dental History Questionnaire

SECTION 3 Peak Procedure
Procedure 7-1. Review of Dental Health History Questionnaire

SECTION 4 Sample Dental Questionnaires

SECTION 5 The Human Element
Ethical Dilemma
Communication Scenarios
English-to-Spanish Phrase Lists

SECTION 6 Practical Focus—Fictitious Patient Cases

SECTION 7 Skill Check

KEY TERM

Dental health history

OBJECTIVES

- Explain the importance of the dental health history in planning and preparing for patient treatment activities.
- Given a dental health history questionnaire, identify those elements that would be important in modifying the planned treatment.

SECTION 1 • Adult Dental Health History Questionnaire

A **dental health history** provides a record of a patient's previous dental experiences. Like the medical history, the dental health history is essential in providing safe dental care for the patient. The dental health history is a quick and effective way to obtain important information about the patient's past and present dental experiences. Most dental practices will utilize a dental health history questionnaire to obtain relevant information from the patient.

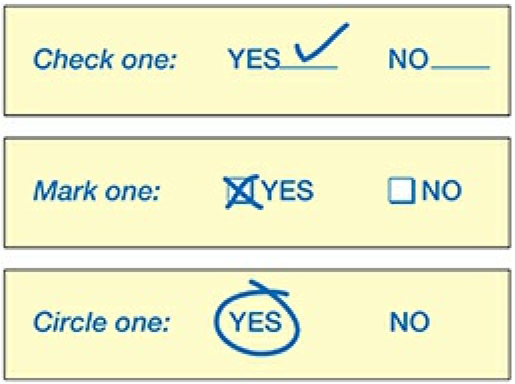
The information requested in a dental health history varies significantly depending on the type of dental practice. For example, a general dental practitioner may use a dental history questionnaire that covers a broad range of dental conditions, whereas an office specializing in pedodontics, orthodontics, cosmetic dentistry, periodontics, prosthodontics, or oral surgery may utilize a dental history format that is more narrowly focused to that type of dental specialty practice. An Internet search on the key words *dental health history* will provide literally hundreds of examples of questionnaires used by various dental practices; all have similarities, but no two forms are identical.

The dental health questionnaire is a highly effective tool permitting the dental team to identify the patient's potential dental needs and risks. Information gained from the questionnaire can be addressed more carefully and thoroughly at chairside. In addition, the questionnaire can provide opportunities for enriched communication opportunities for the dental team related to addressing potential dental anxiety, daily self-care, preventive therapy regimens, dietary counseling, esthetic considerations, as well as treatment alternatives.

It is always assumed that the dental health history provides supplemental information important to the dental practice team *and* is always used in the context of having first taken a complete medical history. The dental health history is never used independent of the medical health history.

Questionnaire Format

There is no standardized format for a dental health questionnaire. Common formats include fill-in-the-blank type questions, checkmarks, boxes, and circling the correct response (Fig. 7-1).



Check one: YES ✓ NO____

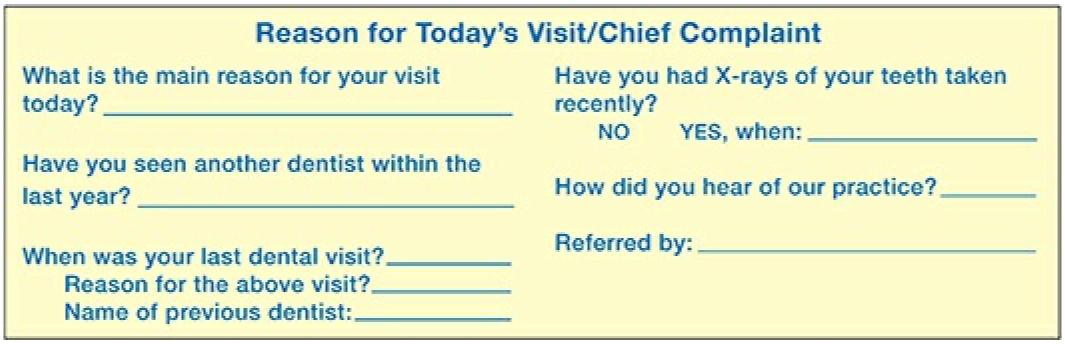
Mark one: ☒ YES ☐ NO

Circle one: [✓ YES] NO

FIGURE 7-1 **Questionnaire formats.** Common questionnaire formats include the use of checkmarks, boxes, and circling the correct answer.

Reason for Appointment

For a new patient, the dental health questionnaire very likely includes some of the elements indicated in Figure 7-2.



Reason for Today's Visit/Chief Complaint

What is the main reason for your visit today? ______________________

Have you seen another dentist within the last year? ______________________

When was your last dental visit? __________
Reason for the above visit? __________
Name of previous dentist: __________

Have you had X-rays of your teeth taken recently?
NO YES, when: ______________

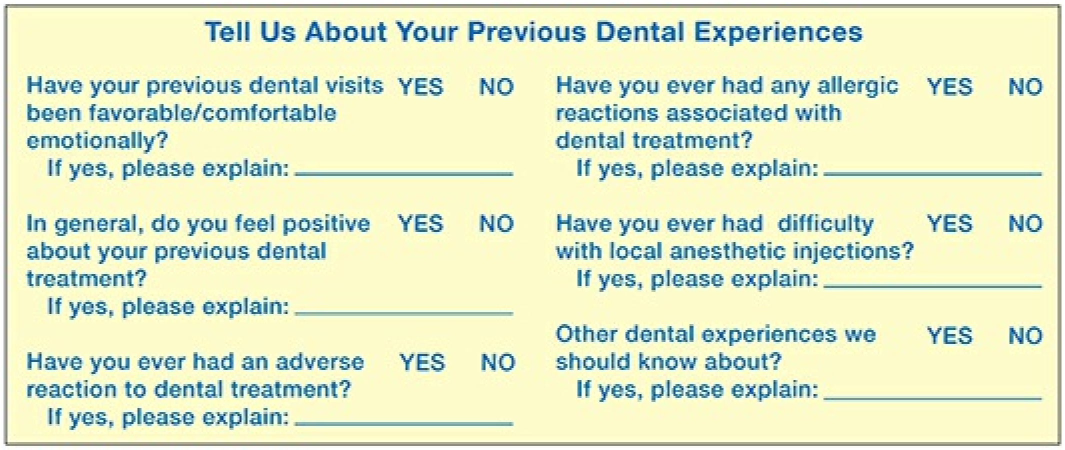
How did you hear of our practice? __________

Referred by: ______________________

FIGURE 7-2 **Reason for appointment.** Questions, such as these, commonly are found on a dental questionnaire regarding the reason for the appointment.

Previous Dental Experiences

Many dental questionnaires attempt to identify whether or not the patient has had any previous negative dental experiences that might require special considerations. Examples of special considerations are antianxiety premedication, intravenous sedation, or nitrous oxide sedation. Some examples of questions used to elicit information about previous dental experiences are listed in Figures 7-3 and 7-4.



Tell Us About Your Previous Dental Experiences

Have your previous dental visits been favorable/comfortable emotionally? YES NO
If yes, please explain: ____________

In general, do you feel positive about your previous dental treatment? YES NO
If yes, please explain: ____________

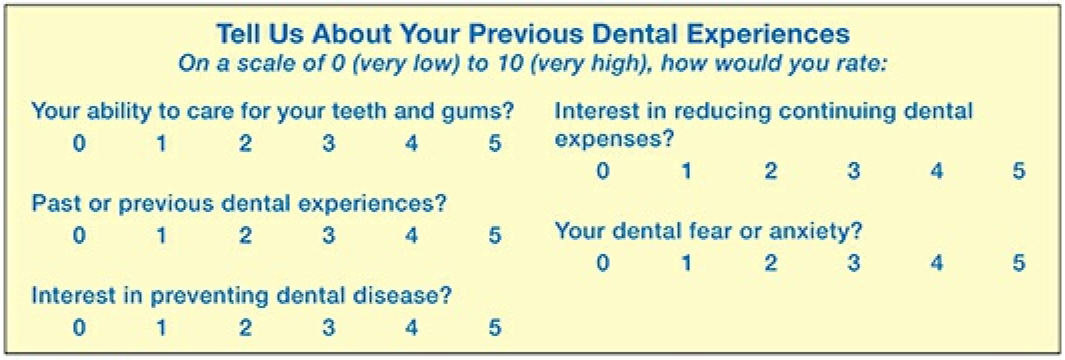
Have you ever had an adverse reaction to dental treatment? YES NO
If yes, please explain: ____________

Have you ever had any allergic reactions associated with dental treatment? YES NO
If yes, please explain: ____________

Have you ever had difficulty with local anesthetic injections? YES NO
If yes, please explain: ____________

Other dental experiences we should know about? YES NO
If yes, please explain: ____________

FIGURE 7-3 **Previous dental experiences.** A dental questionnaire should include questions about the patient's previous experiences with dental care.



Tell Us About Your Previous Dental Experiences

On a scale of 0 (very low) to 10 (very high), how would you rate:

Your ability to care for your teeth and gums?
0 1 2 3 4 5

Past or previous dental experiences?
0 1 2 3 4 5

Interest in preventing dental disease?
0 1 2 3 4 5

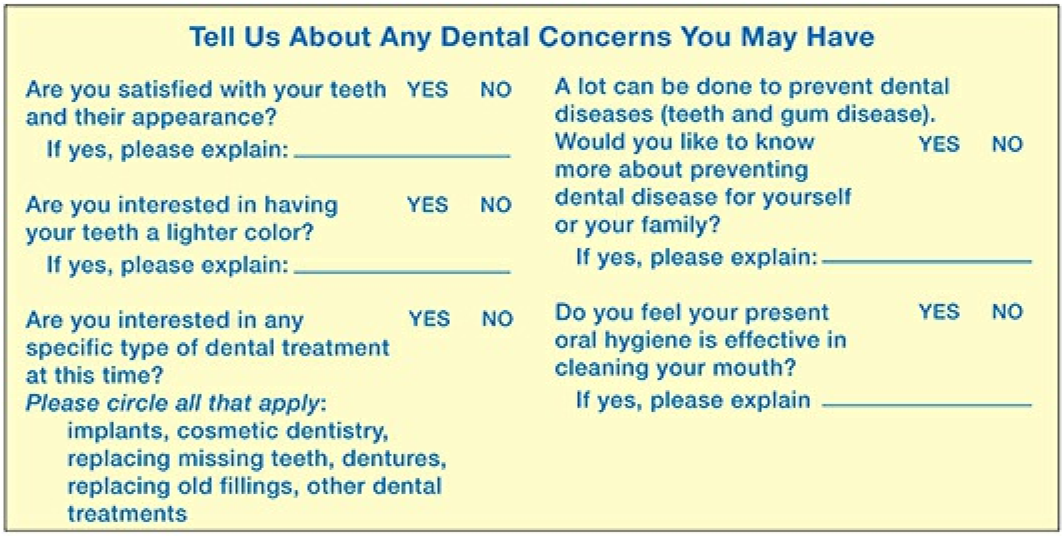
Interest in reducing continuing dental expenses?
0 1 2 3 4 5

Your dental fear or anxiety?
0 1 2 3 4 5

FIGURE 7-4 **Previous dental experiences.** An alternative way of obtaining information about previous dental experiences is to use a scale assessment, either 0 to 5 or 0 to 10.

Dental Concerns

The next section of the dental health questionnaire generally involves identifying specific dental concerns that the patient may have regarding possible treatment options. These questions can be used to focus the dental team on issues that the patient feels are important. Examples of typical questions are shown in Figure 7-5.



Tell Us About Any Dental Concerns You May Have

Are you satisfied with your teeth and their appearance? YES NO
If yes, please explain: ________________

Are you interested in having your teeth a lighter color? YES NO
If yes, please explain: ________________

Are you interested in any specific type of dental treatment at this time? YES NO
Please circle all that apply:
implants, cosmetic dentistry, replacing missing teeth, dentures, replacing old fillings, other dental treatments

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? YES NO
If yes, please explain: ________________

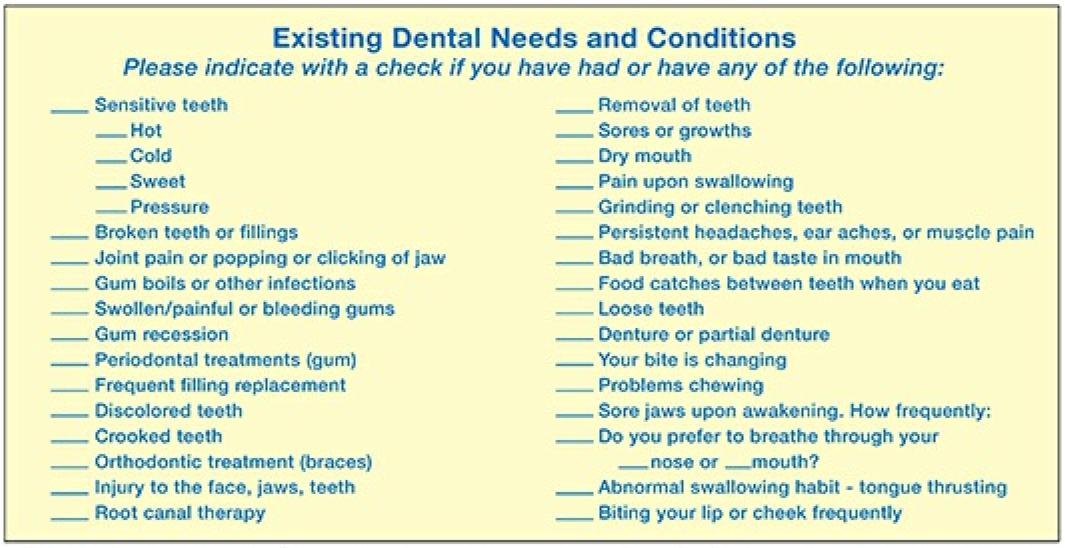
Do you feel your present oral hygiene is effective in cleaning your mouth? YES NO
If yes, please explain ________________

FIGURE 7-5 **Patient's dental concerns.** The dental questionnaire should include questions about the patient's dental concerns.

Existing Dental Conditions

The above elements of the dental health questionnaire not only provide an overview of the patient's past dental experiences but also help prompt a patient to identify issues that he or she wants addressed by the dental team. These types of questions provide the clinician with a potential "heads up" regarding whether or not this patient has had prior positive or negative dental experiences and alerts the clinician to any potential problems with local anesthesia, the need for anxiety premedication and other important treatment considerations. The preceding questions, however, do not provide an opportunity for the dental health team to focus on specific, common dental problems and symptoms.

The next section of the dental health questionnaire will vary from one office to the next depending on the focus of the practice and represents an opportunity for the dental team to identify existing dental conditions that may require consideration. Examples of the types of questions are provided in Figure 7-6 and are typically presented in a check the line/box type of format.



Existing Dental Needs and Conditions

Please indicate with a check if you have had or have any of the following:

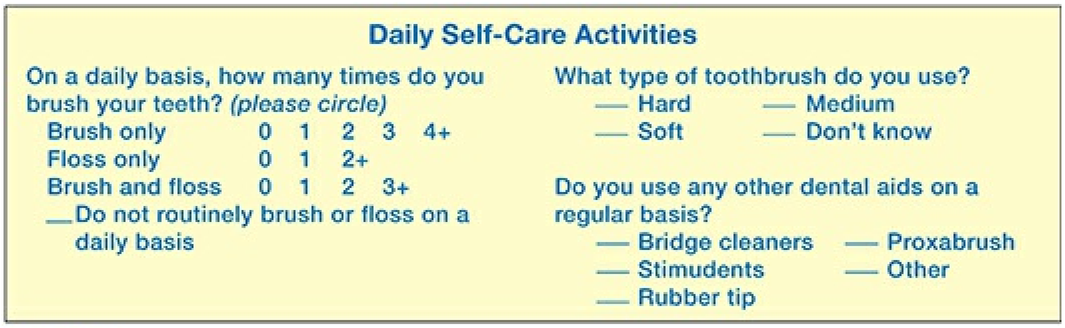
___ Sensitive teeth
  ___ Hot
  ___ Cold
  ___ Sweet
  ___ Pressure
___ Broken teeth or fillings
___ Joint pain or popping or clicking of jaw
___ Gum boils or other infections
___ Swollen/painful or bleeding gums
___ Gum recession
___ Periodontal treatments (gum)
___ Frequent filling replacement
___ Discolored teeth
___ Crooked teeth
___ Orthodontic treatment (braces)
___ Injury to the face, jaws, teeth
___ Root canal therapy

___ Removal of teeth
___ Sores or growths
___ Dry mouth
___ Pain upon swallowing
___ Grinding or clenching teeth
___ Persistent headaches, ear aches, or muscle pain
___ Bad breath, or bad taste in mouth
___ Food catches between teeth when you eat
___ Loose teeth
___ Denture or partial denture
___ Your bite is changing
___ Problems chewing
___ Sore jaws upon awakening. How frequently:
___ Do you prefer to breathe through your
  ___ nose or ___ mouth?
___ Abnormal swallowing habit - tongue thrusting
___ Biting your lip or cheek frequently

FIGURE 7-6 Existing dental needs and conditions. Information should be gathered about existing dental needs and conditions.

Daily Self-care

Other helpful elements in a dental health questionnaire may relate to identifying the patient's daily self-care routine. Examples of typical questions are shown in Figure 7-7.



Daily Self-Care Activities

On a daily basis, how many times do you brush your teeth? *(please circle)*
  Brush only 0 1 2 3 4+
  Floss only 0 1 2+
  Brush and floss 0 1 2 3+
  ___ Do not routinely brush or floss on a daily basis

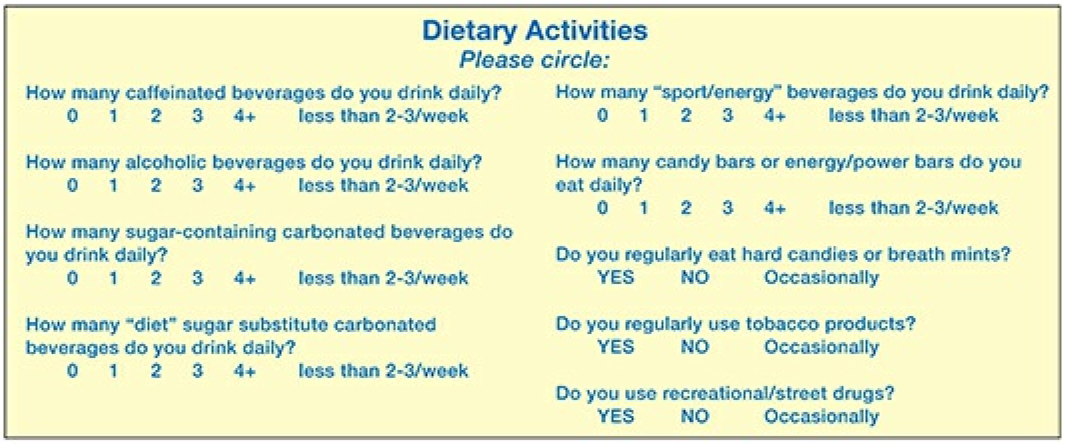
What type of toothbrush do you use?
  ___ Hard
  ___ Medium
  ___ Soft
  ___ Don't know

Do you use any other dental aids on a regular basis?
  ___ Bridge cleaners
  ___ Proxabrush
  ___ Stimudents
  ___ Other
  ___ Rubber tip

FIGURE 7-7 Daily self-care activities. It is helpful to gather information about the patient's current daily self-care habits.

Dietary Habits

Some dental health questionnaires specifically address dietary activities that might potentially have a significant negative impact on dental health (Fig. 7-8). For example, a history of consuming sugary drinks may increase the risk of dental decay.



Dietary Activities

Please circle:

How many caffeinated beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many sugar-containing carbonated beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many "diet" sugar substitute carbonated beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 2 3 4+ less than 2-3/week

Do you regularly eat hard candies or breath mints?
YES NO Occasionally

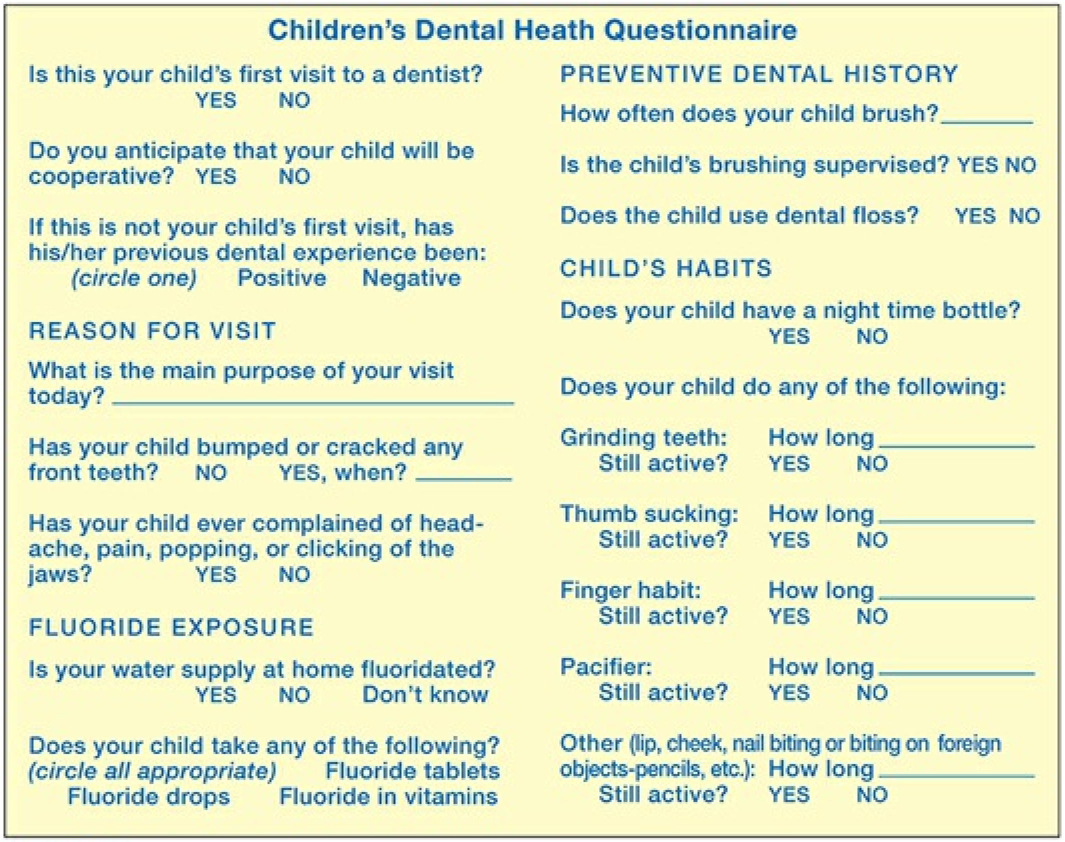
Do you regularly use tobacco products?
YES NO Occasionally

Do you use recreational/street drugs?
YES NO Occasionally

FIGURE 7-8 **Dietary activities.** Information about dietary habits that could be a contributing factor in dental disease can be helpful to the clinician.

SECTION 2 • Children's Dental History Questionnaire

For offices that treat young children, a special children's dental health questionnaire is required. A typical children's dental history would include some of the elements illustrated in Figure 7-9.



Children's Dental Heath Questionnaire

Is this your child's first visit to a dentist? YES NO

Do you anticipate that your child will be cooperative? YES NO

If this is not your child's first visit, has his/her previous dental experience been: *(circle one)* Positive Negative

REASON FOR VISIT

What is the main purpose of your visit today? ____________

Has your child bumped or cracked any front teeth? NO YES, when? ______

Has your child ever complained of headache, pain, popping, or clicking of the jaws? YES NO

FLUORIDE EXPOSURE

Is your water supply at home fluoridated? YES NO Don't know

Does your child take any of the following? *(circle all appropriate)* Fluoride tablets Fluoride drops Fluoride in vitamins

PREVENTIVE DENTAL HISTORY

How often does your child brush? ______

Is the child's brushing supervised? YES NO

Does the child use dental floss? YES NO

CHILD'S HABITS

Does your child have a night time bottle? YES NO

Does your child do any of the following:

Grinding teeth: How long ______
Still active? YES NO

Thumb sucking: How long ______
Still active? YES NO

Finger habit: How long ______
Still active? YES NO

Pacifier: How long ______
Still active? YES NO

Other (lip, cheek, nail biting or biting on foreign objects-pencils, etc.): How long ______
Still active? YES NO

FIGURE 7-9 **Children's dental health questionnaire.** These questions are examples of questions that would be helpful on a children's health questionnaire.

SECTION 3 • **Peak Procedure**

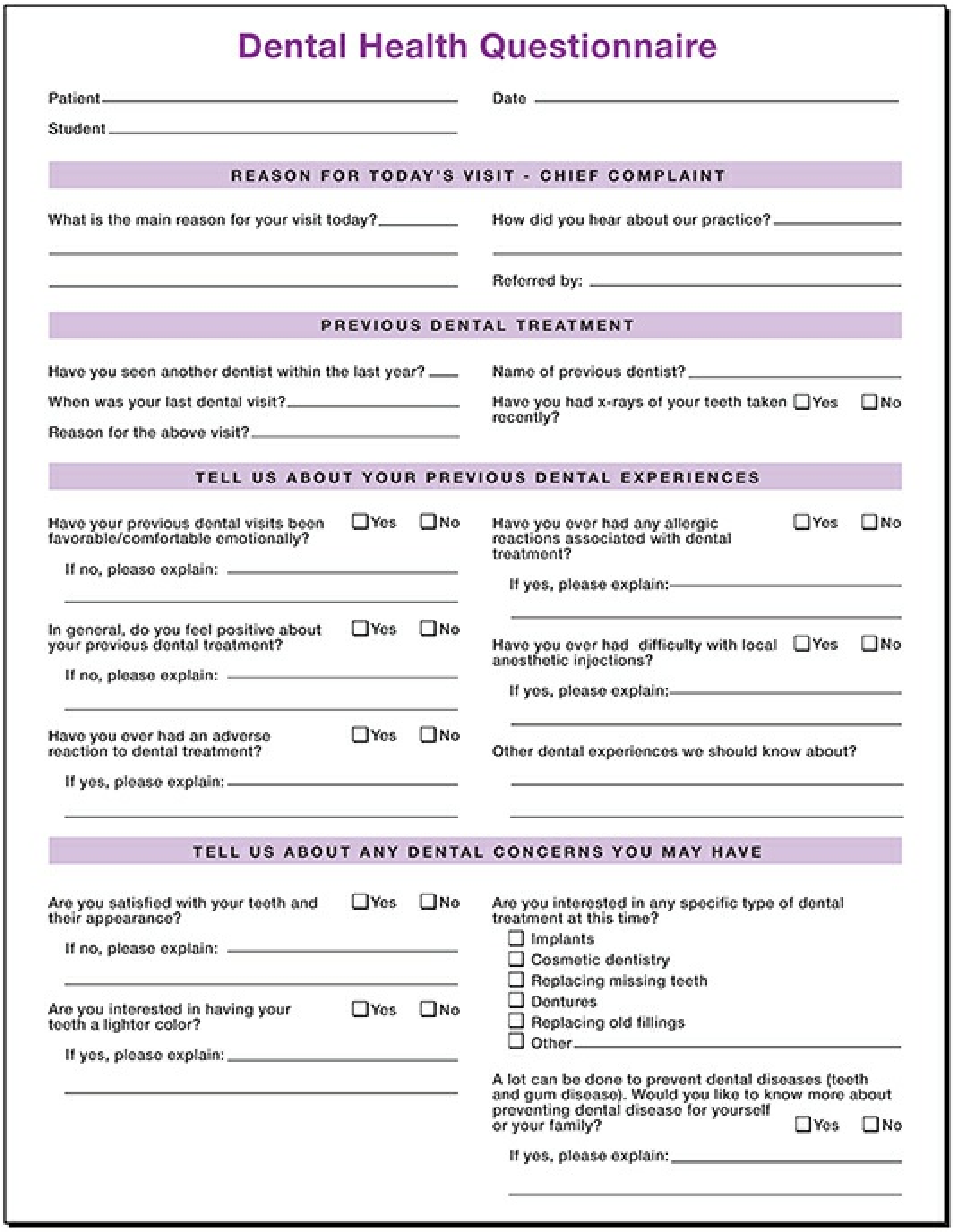
Procedure 7.1 Review of Dental Health History Questionnaire

Action	Rationale
1. Read through every line and check box. Are all the questions answered?	• Complete information is important to protect the patient's health.
2. Can you understand what is written?	• Make a note to ask the patient about anything that is not clear.

3. Did the patient, parent, or guardian sign and date the form?	• The dental history must be signed and dated.
4. Read through the form. Circle concerns in red pencil—such as problems that the patient has experienced in the past with dental treatment.	• Discuss concerns during the patient interview.
5. Read through handwritten responses made by the patient. Circle concerns in red pencil.	• Discuss concerns during the patient interview.
6. Identify any dental treatment alterations that might be necessary for treatment of this patient.	• Examples of treatment alterations include antianxiety medication prior to appointment or use of latex-free gloves for a patient who has experienced an adverse reaction to latex gloves during previous dental treatment.

SECTION 4 • Sample Dental Questionnaires

Figures 7-10A to 7-13B are examples of dental health questionnaires.



Dental Health Questionnaire

Patient ____________________ Date ____________________

Student ____________________

REASON FOR TODAY'S VISIT - CHIEF COMPLAINT

What is the main reason for your visit today? ____________________

How did you hear about our practice? ____________________

Referred by: ____________________

PREVIOUS DENTAL TREATMENT

Have you seen another dentist within the last year? ______

When was your last dental visit? ____________________

Reason for the above visit? ____________________

Name of previous dentist? ____________________

Have you had x-rays of your teeth taken recently? ☐ Yes ☐ No

TELL US ABOUT YOUR PREVIOUS DENTAL EXPERIENCES

Have your previous dental visits been favorable/comfortable emotionally? ☐ Yes ☐ No

If no, please explain: ____________________

In general, do you feel positive about your previous dental treatment? ☐ Yes ☐ No

If no, please explain: ____________________

Have you ever had an adverse reaction to dental treatment? ☐ Yes ☐ No

If yes, please explain: ____________________

Have you ever had any allergic reactions associated with dental treatment? ☐ Yes ☐ No

If yes, please explain: ____________________

Have you ever had difficulty with local anesthetic injections? ☐ Yes ☐ No

If yes, please explain: ____________________

Other dental experiences we should know about? ____________________

TELL US ABOUT ANY DENTAL CONCERNS YOU MAY HAVE

Are you satisfied with your teeth and their appearance? ☐ Yes ☐ No

If no, please explain: ____________________

Are you interested in having your teeth a lighter color? ☐ Yes ☐ No

If yes, please explain: ____________________

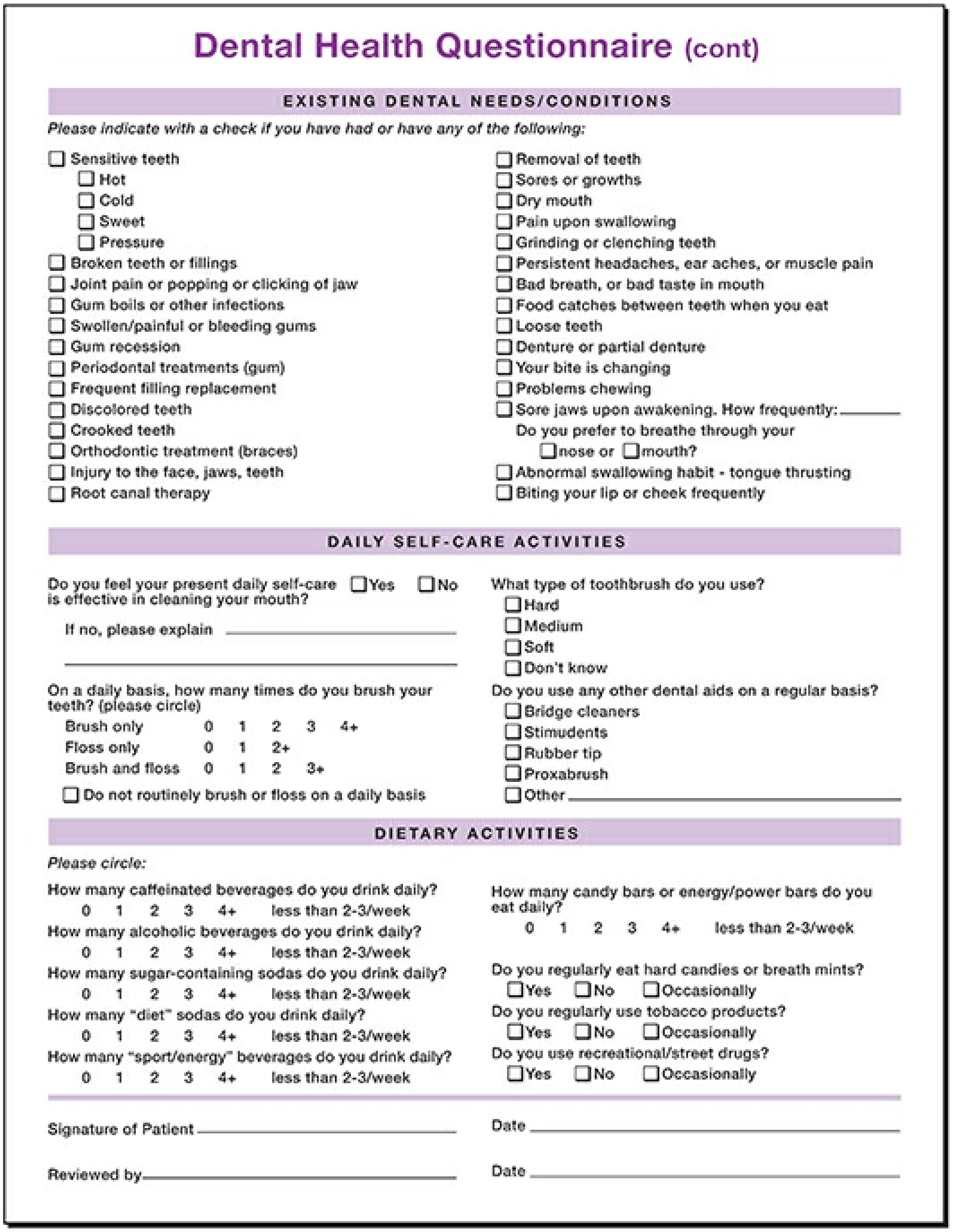
Are you interested in any specific type of dental treatment at this time?

- ☐ Implants
- ☐ Cosmetic dentistry
- ☐ Replacing missing teeth
- ☐ Dentures
- ☐ Replacing old fillings
- ☐ Other ____________________

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? ☐ Yes ☐ No

If yes, please explain: ____________________

FIGURE 7-10A **Adult dental health questionnaire in English.** Page 1 of an adult dental health questionnaire in English.



Dental Health Questionnaire (cont)

EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if you have had or have any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☐ Cold
  - ☐ Sweet
  - ☐ Pressure
- ☐ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☐ Swollen/painful or bleeding gums
- ☐ Gum recession
- ☐ Periodontal treatments (gum)
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☐ Bad breath, or bad taste in mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Denture or partial denture
- ☐ Your bite is changing
- ☐ Problems chewing
- ☐ Sore jaws upon awakening. How frequently: ________
  Do you prefer to breathe through your
  ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting your lip or cheek frequently

DAILY SELF-CARE ACTIVITIES

Do you feel your present daily self-care is effective in cleaning your mouth? ☐ Yes ☐ No

If no, please explain ________________

____

On a daily basis, how many times do you brush your teeth? (please circle)

Brush only	0	1	2	3	4+
Floss only	0	1	2+		
Brush and floss	0	1	2	3+	

☐ Do not routinely brush or floss on a daily basis

What type of toothbrush do you use?
- ☐ Hard
- ☐ Medium
- ☐ Soft
- ☐ Don't know

Do you use any other dental aids on a regular basis?
- ☐ Bridge cleaners
- ☐ Stimudents
- ☐ Rubber tip
- ☐ Proxabrush
- ☐ Other ________________

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many sugar-containing sodas do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many "diet" sodas do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
0 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 2 3 4+ less than 2-3/week

Do you regularly eat hard candies or breath mints?
☐ Yes ☐ No ☐ Occasionally

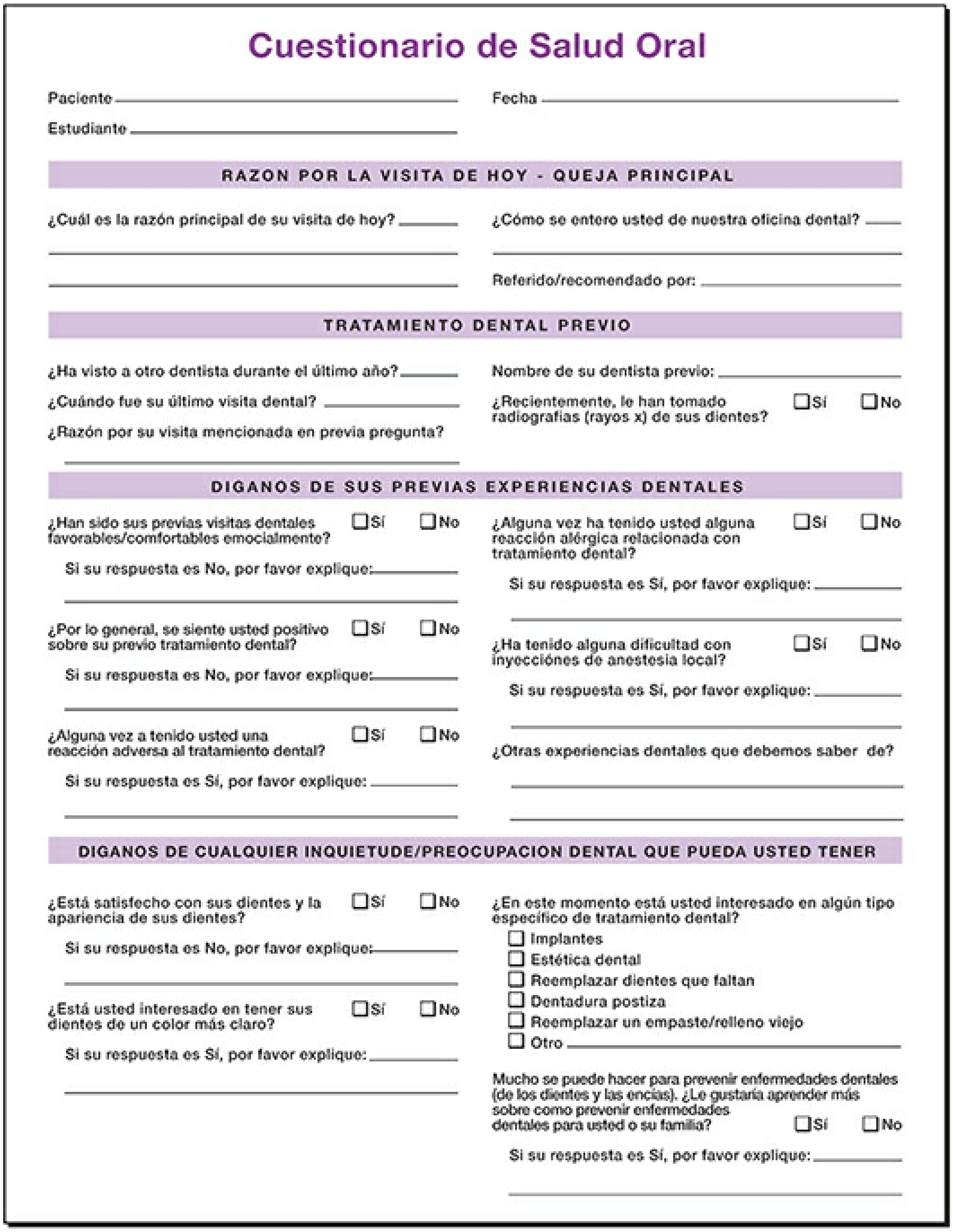
Do you regularly use tobacco products?
☐ Yes ☐ No ☐ Occasionally

Do you use recreational/street drugs?
☐ Yes ☐ No ☐ Occasionally

Signature of Patient ________________ Date ________________

Reviewed by ________________ Date ________________

FIGURE 7-10B Adult dental health questionnaire in English. Page 2 of an adult dental health questionnaire in English.



Cuestionario de Salud Oral

Paciente ____________________
Estudiante ____________________
Fecha ____________________

RAZON POR LA VISITA DE HOY - QUEJA PRINCIPAL

¿Cuál es la razón principal de su visita de hoy? ____________________

¿Cómo se entero usted de nuestra oficina dental? ____________________

Referido/recomendado por: ____________________

TRATAMIENTO DENTAL PREVIO

¿Ha visto a otro dentista durante el último año? ________

¿Cuándo fue su último visita dental? ________

¿Razón por su visita mencionada en previa pregunta? ____________________

Nombre de su dentista previo: ____________________

¿Recientemente, le han tomado radiografias (rayos x) de sus dientes? ☐ Sí ☐ No

DIGANOS DE SUS PREVIAS EXPERIENCIAS DENTALES

¿Han sido sus previas visitas dentales favorables/comfortables emocialmente? ☐ Sí ☐ No

Si su respuesta es No, por favor explique: ____________________

¿Por lo general, se siente usted positivo sobre su previo tratamiento dental? ☐ Sí ☐ No

Si su respuesta es No, por favor explique: ____________________

¿Alguna vez a tenido usted una reacción adversa al tratamiento dental? ☐ Sí ☐ No

Si su respuesta es Sí, por favor explique: ____________________

¿Alguna vez ha tenido usted alguna reacción alérgica relacionada con tratamiento dental? ☐ Sí ☐ No

Si su respuesta es Sí, por favor explique: ____________________

¿Ha tenido alguna dificultad con inyecciónes de anestesia local? ☐ Sí ☐ No

Si su respuesta es Sí, por favor explique: ____________________

¿Otras experiencias dentales que debemos saber de? ____________________

DIGANOS DE CUALQUIER INQUIETUDE/PREOCUPACION DENTAL QUE PUEDA USTED TENER

¿Está satisfecho con sus dientes y la apariencia de sus dientes? ☐ Sí ☐ No

Si su respuesta es No, por favor explique: ____________________

¿Está usted interesado en tener sus dientes de un color más claro? ☐ Sí ☐ No

Si su respuesta es Sí, por favor explique: ____________________

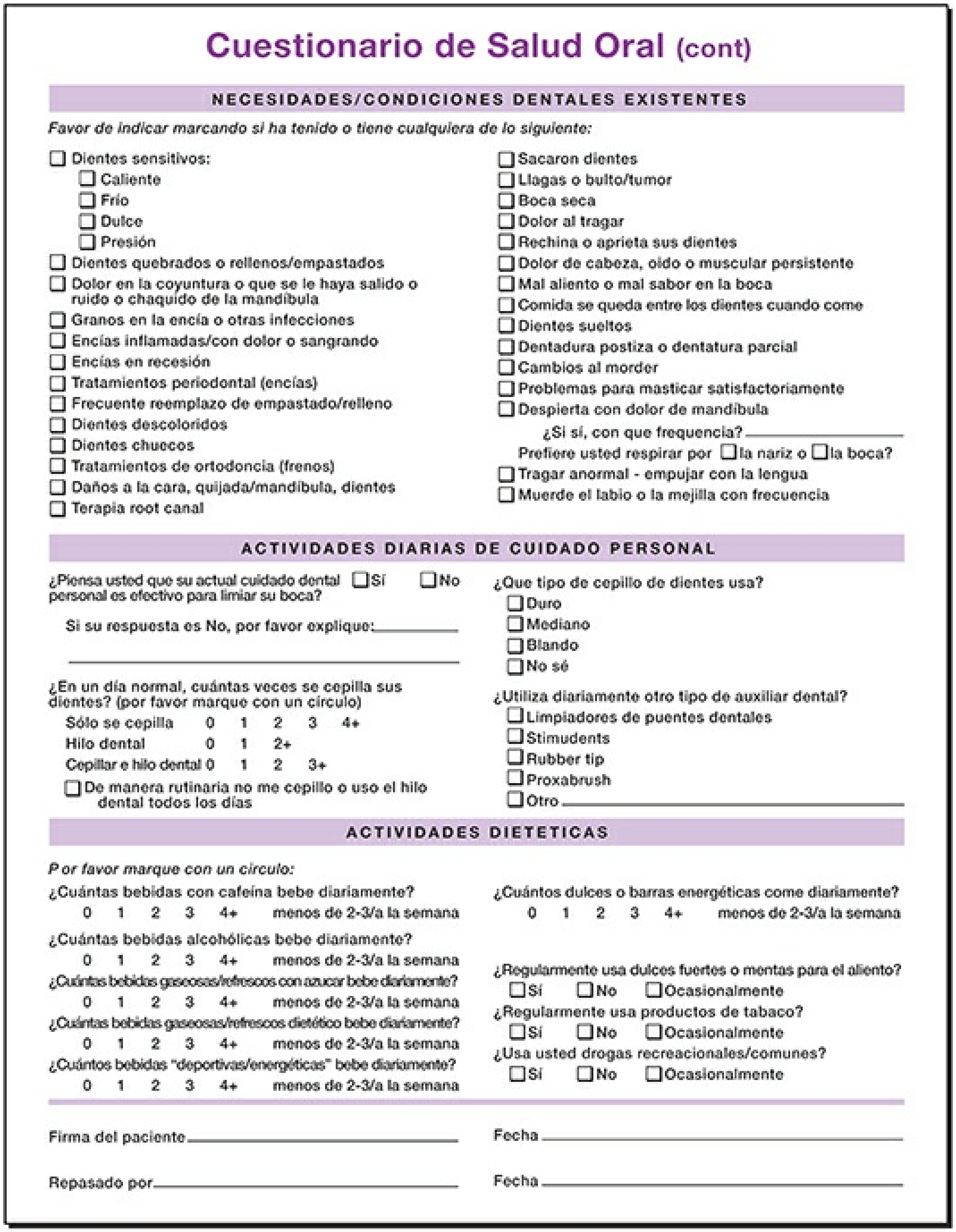
¿En este momento está usted interesado en algún tipo especifico de tratamiento dental?

- ☐ Implantes
- ☐ Estética dental
- ☐ Reemplazar dientes que faltan
- ☐ Dentadura postiza
- ☐ Reemplazar un empaste/relleno viejo
- ☐ Otro ____________________

Mucho se puede hacer para prevenir enfermedades dentales (de los dientes y las encías). ¿Le gustaría aprender más sobre como prevenir enfermedades dentales para usted o su familia? ☐ Sí ☐ No

Si su respuesta es Sí, por favor explique: ____________________

FIGURE 7-11A **Adult dental health questionnaire in Spanish.** Page 1 of an adult dental health questionnaire in Spanish.



Cuestionario de Salud Oral (cont)

NECESIDADES/CONDICIONES DENTALES EXISTENTES

Favor de indicar marcando si ha tenido o tiene cualquiera de lo siguiente:

☐ Dientes sensitivos:
  ☐ Caliente
  ☐ Frío
  ☐ Dulce
  ☐ Presión
☐ Dientes quebrados o rellenos/empastados
☐ Dolor en la coyuntura o que se le haya salido o ruido o chaquido de la mandíbula
☐ Granos en la encía o otras infecciones
☐ Encías inflamadas/con dolor o sangrando
☐ Encías en recesión
☐ Tratamientos periodontal (encías)
☐ Frecuente reemplazo de empastado/relleno
☐ Dientes descoloridos
☐ Dientes chuecos
☐ Tratamientos de ortodoncia (frenos)
☐ Daños a la cara, quijada/mandíbula, dientes
☐ Terapia root canal

☐ Sacaron dientes
☐ Llagas o bulto/tumor
☐ Boca seca
☐ Dolor al tragar
☐ Rechina o aprieta sus dientes
☐ Dolor de cabeza, oido o muscular persistente
☐ Mal aliento o mal sabor en la boca
☐ Comida se queda entre los dientes cuando come
☐ Dientes sueltos
☐ Dentadura postiza o dentatura parcial
☐ Cambios al morder
☐ Problemas para masticar satisfactoriamente
☐ Despierta con dolor de mandíbula
  ¿Si sí, con que frequencia? ____________
Prefiere usted respirar por ☐ la nariz o ☐ la boca?
☐ Tragar anormal - empujar con la lengua
☐ Muerde el labio o la mejilla con frecuencia

ACTIVIDADES DIARIAS DE CUIDADO PERSONAL

¿Piensa usted que su actual cuidado dental personal es efectivo para limiar su boca? ☐ Sí ☐ No

Si su respuesta es No, por favor explique: ____________

____

¿En un día normal, cuántas veces se cepilla sus dientes? (por favor marque con un círculo)

Sólo se cepilla 0 1 2 3 4+
Hilo dental 0 1 2+
Cepillar e hilo dental 0 1 2 3+

☐ De manera rutinaria no me cepillo o uso el hilo dental todos los días

¿Que tipo de cepillo de dientes usa?
☐ Duro
☐ Mediano
☐ Blando
☐ No sé

¿Utiliza diariamente otro tipo de auxiliar dental?
☐ Limpiadores de puentes dentales
☐ Stimudents
☐ Rubber tip
☐ Proxabrush
☐ Otro ____________

ACTIVIDADES DIETETICAS

P or favor marque con un circulo:

¿Cuántas bebidas con cafeína bebe diariamente?
0 1 2 3 4+ menos de 2-3/a la semana
¿Cuántas bebidas alcohólicas bebe diariamente?
0 1 2 3 4+ menos de 2-3/a la semana
¿Cuántas bebidas gaseosas/refrescos con azucar bebe diariamente?
0 1 2 3 4+ menos de 2-3/a la semana
¿Cuántas bebidas gaseosas/refrescos dietético bebe diariamente?
0 1 2 3 4+ menos de 2-3/a la semana
¿Cuántos bebidas "deportivas/energéticas" bebe diariamente?
0 1 2 3 4+ menos de 2-3/a la semana

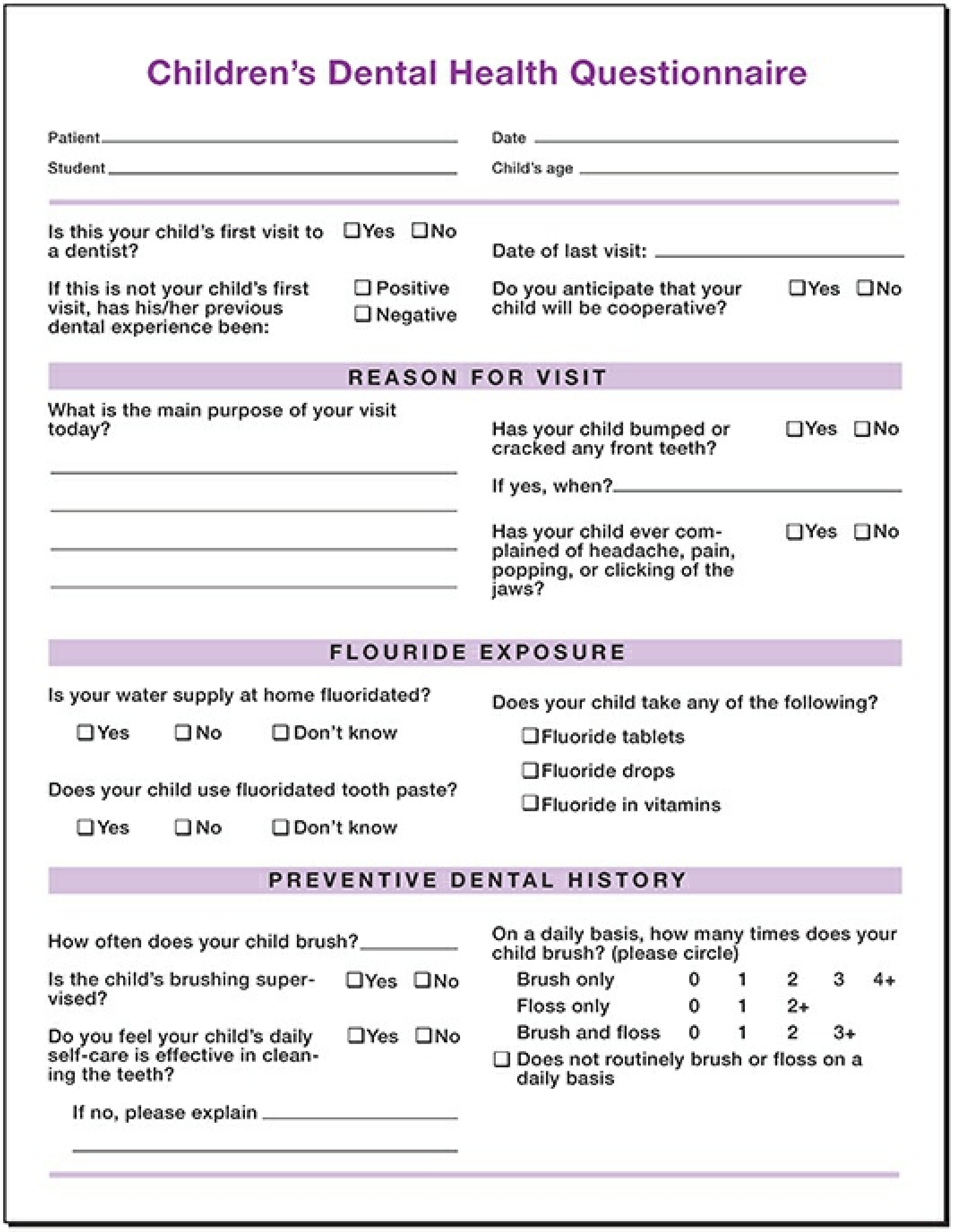
¿Cuántos dulces o barras energéticas come diariamente?
0 1 2 3 4+ menos de 2-3/a la semana

¿Regularmente usa dulces fuertes o mentas para el aliento?
☐ Sí ☐ No ☐ Ocasionalmente
¿Regularmente usa productos de tabaco?
☐ Sí ☐ No ☐ Ocasionalmente
¿Usa usted drogas recreacionales/comunes?
☐ Sí ☐ No ☐ Ocasionalmente

Firma del paciente ____________ Fecha ____________

Repasado por ____________ Fecha ____________

FIGURE 7-11B Adult dental health questionnaire in Spanish. Page 2 of an adult dental health questionnaire in Spanish.



Children's Dental Health Questionnaire

Patient ____________________
Date ____________________
Student ____________________
Child's age ____________________

Is this your child's first visit to a dentist? ☐Yes ☐No

Date of last visit: ____________________

If this is not your child's first visit, has his/her previous dental experience been: ☐ Positive ☐ Negative

Do you anticipate that your child will be cooperative? ☐Yes ☐No

REASON FOR VISIT

What is the main purpose of your visit today?
____
____
____
____

Has your child bumped or cracked any front teeth? ☐Yes ☐No

If yes, when? ____________________

Has your child ever complained of headache, pain, popping, or clicking of the jaws? ☐Yes ☐No

FLOURIDE EXPOSURE

Is your water supply at home fluoridated?
☐ Yes ☐ No ☐ Don't know

Does your child use fluoridated tooth paste?
☐ Yes ☐ No ☐ Don't know

Does your child take any of the following?
☐Fluoride tablets
☐Fluoride drops
☐Fluoride in vitamins

PREVENTIVE DENTAL HISTORY

How often does your child brush? __________

Is the child's brushing supervised? ☐Yes ☐No

Do you feel your child's daily self-care is effective in cleaning the teeth? ☐Yes ☐No

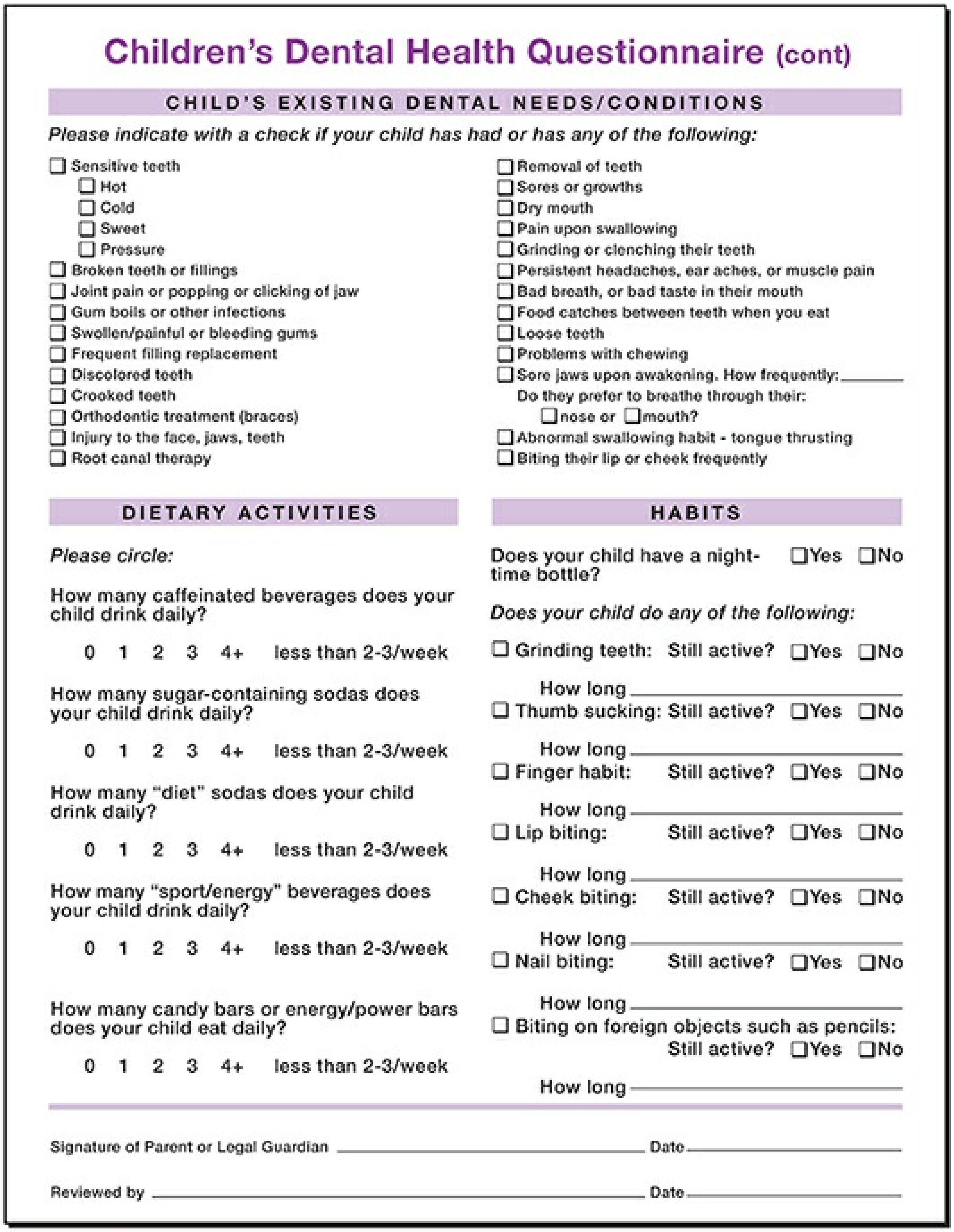
If no, please explain ____________________
____

On a daily basis, how many times does your child brush? (please circle)

Brush only	0	1	2	3	4+
Floss only	0	1	2+		
Brush and floss	0	1	2	3+	

☐ Does not routinely brush or floss on a daily basis

FIGURE 7-12A **Child's dental health questionnaire in English.** Page 1 of a children's dental health questionnaire in English.



Children's Dental Health Questionnaire (cont)

CHILD'S EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if your child has had or has any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☐ Cold
  - ☐ Sweet
  - ☐ Pressure
- ☐ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☐ Swollen/painful or bleeding gums
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching their teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☐ Bad breath, or bad taste in their mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Problems with chewing
- ☐ Sore jaws upon awakening. How frequently:______
  Do they prefer to breathe through their:
  ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting their lip or cheek frequently

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages does your child drink daily?

0 1 2 3 4+ less than 2-3/week

How many sugar-containing sodas does your child drink daily?

0 1 2 3 4+ less than 2-3/week

How many "diet" sodas does your child drink daily?

0 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages does your child drink daily?

0 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars does your child eat daily?

0 1 2 3 4+ less than 2-3/week

HABITS

Does your child have a night-time bottle? ☐ Yes ☐ No

Does your child do any of the following:

☐ Grinding teeth: Still active? ☐ Yes ☐ No
How long ______

☐ Thumb sucking: Still active? ☐ Yes ☐ No
How long ______

☐ Finger habit: Still active? ☐ Yes ☐ No
How long ______

☐ Lip biting: Still active? ☐ Yes ☐ No
How long ______

☐ Cheek biting: Still active? ☐ Yes ☐ No
How long ______

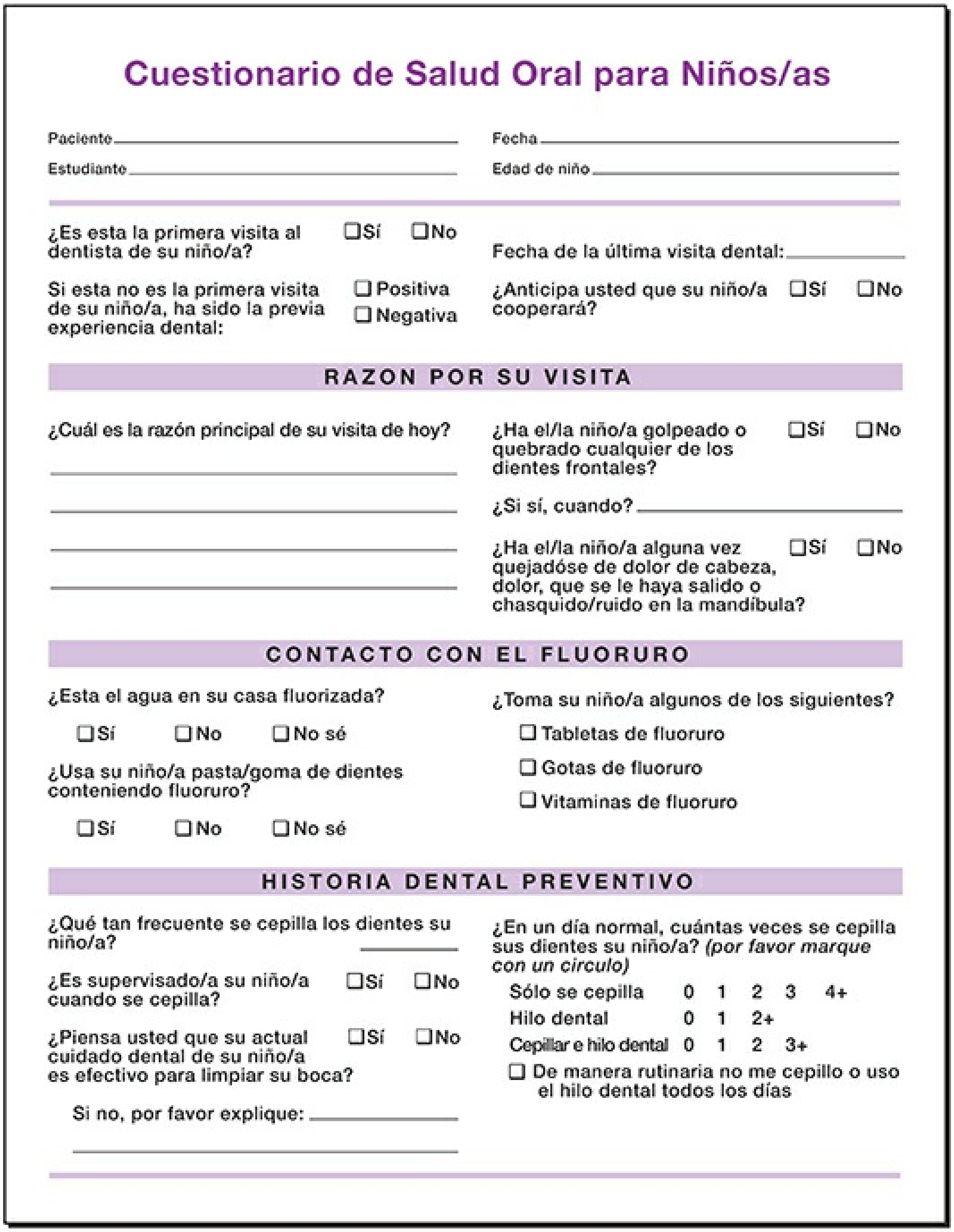
☐ Nail biting: Still active? ☐ Yes ☐ No
How long ______

☐ Biting on foreign objects such as pencils: Still active? ☐ Yes ☐ No
How long ______

Signature of Parent or Legal Guardian ______ Date ______

Reviewed by ______ Date ______

FIGURE 7-12B **Child's dental health questionnaire in English.** Page 2 of a children's dental health questionnaire in English.



Cuestionario de Salud Oral para Niños/as

Paciente ____________________ Fecha ____________________

Estudiante ____________________ Edad de niño ____________________

¿Es esta la primera visita al dentista de su niño/a? ☐Sí ☐No

Fecha de la última visita dental: __________

Si esta no es la primera visita de su niño/a, ha sido la previa experiencia dental: ☐ Positiva ☐ Negativa

¿Anticipa usted que su niño/a cooperará? ☐Sí ☐No

RAZON POR SU VISITA

¿Cuál es la razón principal de su visita de hoy?

____

____

____

____

¿Ha el/la niño/a golpeado o quebrado cualquier de los dientes frontales? ☐Sí ☐No

¿Si sí, cuando? ____________________

¿Ha el/la niño/a alguna vez quejadóse de dolor de cabeza, dolor, que se le haya salido o chasquido/ruido en la mandíbula? ☐Sí ☐No

CONTACTO CON EL FLUORURO

¿Esta el agua en su casa fluorizada?

☐Sí ☐No ☐No sé

¿Usa su niño/a pasta/goma de dientes conteniendo fluoruro?

☐Sí ☐No ☐No sé

¿Toma su niño/a algunos de los siguientes?

☐ Tabletas de fluoruro

☐ Gotas de fluoruro

☐ Vitaminas de fluoruro

HISTORIA DENTAL PREVENTIVO

¿Qué tan frecuente se cepilla los dientes su niño/a? __________

¿Es supervisado/a su niño/a cuando se cepilla? ☐Sí ☐No

¿Piensa usted que su actual cuidado dental de su niño/a es efectivo para limpiar su boca? ☐Sí ☐No

Si no, por favor explique: ____________________

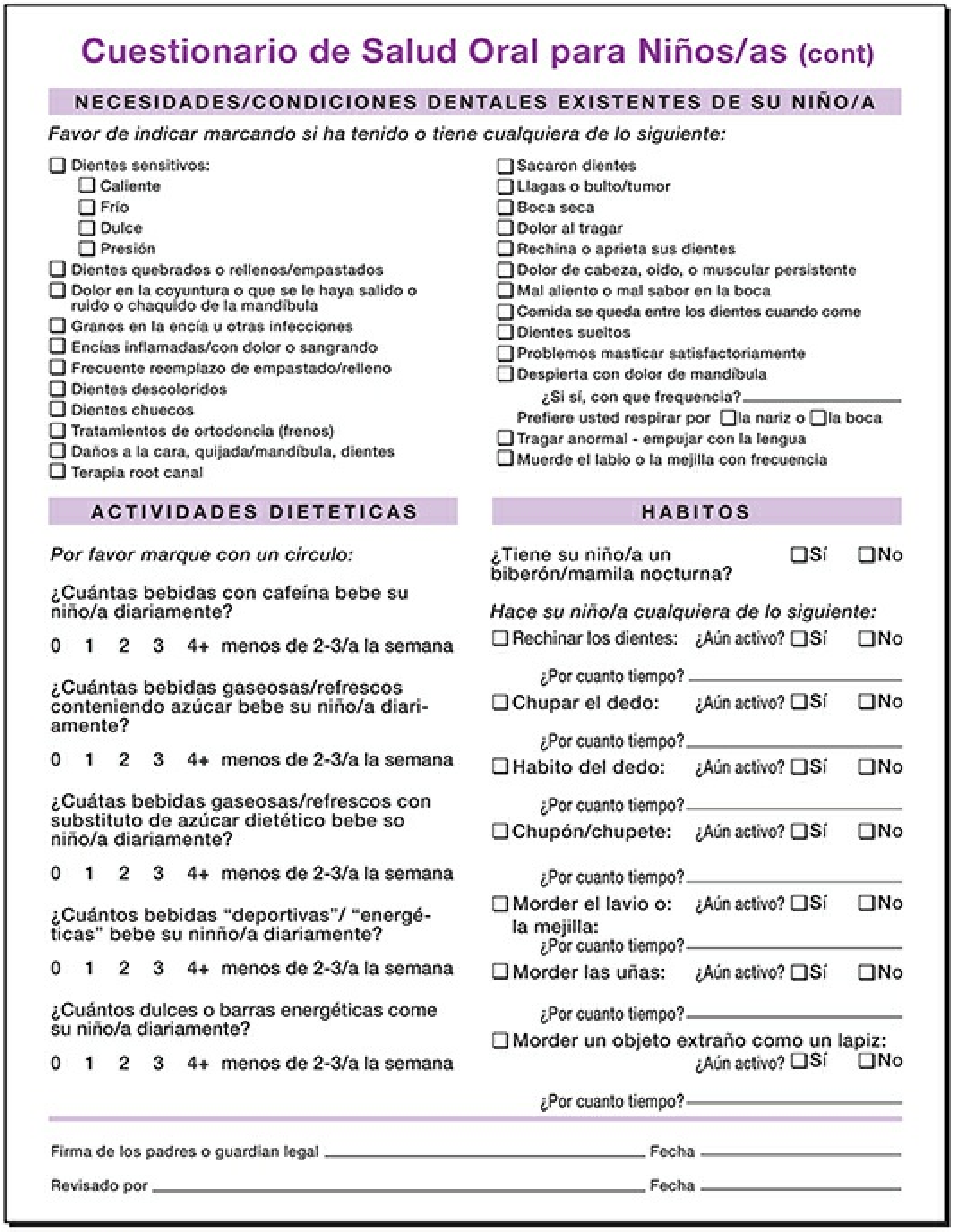
____

¿En un día normal, cuántas veces se cepilla sus dientes su niño/a? *(por favor marque con un circulo)*

Sólo se cepilla	0	1	2	3	4+
Hilo dental	0	1	2+		
Cepillar e hilo dental	0	1	2	3+	

☐ De manera rutinaria no me cepillo o uso el hilo dental todos los días

FIGURE 7-13A **Child's dental health questionnaire in Spanish.** Page 1 of a children's dental health questionnaire in Spanish.



Cuestionario de Salud Oral para Niños/as (cont)

NECESIDADES/CONDICIONES DENTALES EXISTENTES DE SU NIÑO/A

Favor de indicar marcando si ha tenido o tiene cualquiera de lo siguiente:

- ☐ Dientes sensitivos:
  - ☐ Caliente
  - ☐ Frío
  - ☐ Dulce
  - ☐ Presión
- ☐ Dientes quebrados o rellenos/empastados
- ☐ Dolor en la coyuntura o que se le haya salido o ruido o chaquido de la mandíbula
- ☐ Granos en la encía u otras infecciones
- ☐ Encías inflamadas/con dolor o sangrando
- ☐ Frecuente reemplazo de empastado/relleno
- ☐ Dientes descoloridos
- ☐ Dientes chuecos
- ☐ Tratamientos de ortodoncia (frenos)
- ☐ Daños a la cara, quijada/mandíbula, dientes
- ☐ Terapia root canal
- ☐ Sacaron dientes
- ☐ Llagas o bulto/tumor
- ☐ Boca seca
- ☐ Dolor al tragar
- ☐ Rechina o aprieta sus dientes
- ☐ Dolor de cabeza, oido, o muscular persistente
- ☐ Mal aliento o mal sabor en la boca
- ☐ Comida se queda entre los dientes cuando come
- ☐ Dientes sueltos
- ☐ Problemos masticar satisfactoriamente
- ☐ Despierta con dolor de mandíbula
  - ¿Si sí, con que frequencia? ____________
- Prefiere usted respirar por ☐ la nariz o ☐ la boca
- ☐ Tragar anormal - empujar con la lengua
- ☐ Muerde el labio o la mejilla con frecuencia

ACTIVIDADES DIETETICAS

Por favor marque con un circulo:

¿Cuántas bebidas con cafeína bebe su niño/a diariamente?

0 1 2 3 4+ menos de 2-3/a la semana

¿Cuántas bebidas gaseosas/refrescos conteniendo azúcar bebe su niño/a diariamente?

0 1 2 3 4+ menos de 2-3/a la semana

¿Cuátas bebidas gaseosas/refrescos con substituto de azúcar dietético bebe so niño/a diariamente?

0 1 2 3 4+ menos de 2-3/a la semana

¿Cuántos bebidas "deportivas"/ "energéticas" bebe su ninño/a diariamente?

0 1 2 3 4+ menos de 2-3/a la semana

¿Cuántos dulces o barras energéticas come su niño/a diariamente?

0 1 2 3 4+ menos de 2-3/a la semana

HABITOS

¿Tiene su niño/a un biberón/mamila nocturna? ☐ Sí ☐ No

Hace su niño/a cualquiera de lo siguiente:

☐ Rechinar los dientes: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Chupar el dedo: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Habito del dedo: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Chupón/chupete: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Morder el lavio o: la mejilla: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Morder las uñas: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

☐ Morder un objeto extraño como un lapiz: ¿Aún activo? ☐ Sí ☐ No

¿Por cuanto tiempo? ____________

Firma de los padres o guardian legal ____________ Fecha ____________

Revisado por ____________ Fecha ____________

FIGURE 7-13B **Child's dental health questionnaire in Spanish.** Page 2 of a children's dental health questionnaire in English.

SECTION 5 • The Human Element

Ethical Dilemma

PATIENT TREATMENT PREFERENCES

Your next patient is Emily F., a 25-year-old yoga instructor. She was previously treated in Dr. Harley’s practice, but has since left because she says that they could not accommodate her “lifestyle.” This is the first time that she is being seen in your office and is very excited, as she has heard that you have all the latest interventions for optimal patient care. Her chief complaint is discomfort around the area of the maxillary right first molar.

In conversation, Emily tells you that she is a vegan, strives to live a “green” lifestyle, and absolutely refuses to ingest anything “unnatural” into her body. In reviewing her dental health history, Emily states that she refuses all radiographs due to the poisonous radiation. She also refuses sealants, as they are composed of toxic materials. She refuses all forms of fluoride.

1. What is the best way to address/discuss Emily’s treatment plan with her?
2. Do you have an ethical obligation to treat this patient?
3. Is it appropriate for you to call Dr. Harley to discuss Emily’s past dental health history?
4. What, if any alternatives, can you offer Emily in terms of her treatment plan?

Communication Scenarios

LISTENING

Directions: For role-play scenarios 1 and 2, work in pairs. One person is the *speaker*, and the other is the *listener*. After completing scenarios 1 and 2, participate in a class discussion about these two role-plays.

Scenario 1:

- The *speaker* plays the role of a disgruntled *patient* who is unhappy about something that happened at his or her last appointment in your dental office.
- The *listener* plays the role of the *dental hygienist* who is blatantly disrespectful. For example, the hygienist pays little attention to the patient’s concerns and demonstrates rude behavior by reading the chart, typing on a keyboard while making no eye contact, or terminating the conversation abruptly.
- After 4 minutes, stop the role-play and switch roles (the speaker becomes the listener).

Scenario 2:

- In scenario 2, the *speaker* once again plays the role of an unhappy patient.
- For this scenario, the *listener* plays the role of a dental hygienist who shows respect for the patient and his or her concerns throughout the

conversation.

- After 4 minutes, stop the role-play and switch roles (the speaker becomes the listener).

Discussion Points for Scenarios 1 and 2:

- As the patient, what were the effects of disrespect? How did it feel to receive respectful communication with the hygienist?
- Discuss what participating in these role-play scenarios has taught you about interpersonal relationships in the professional dental setting?

English-to-Spanish Phrase List

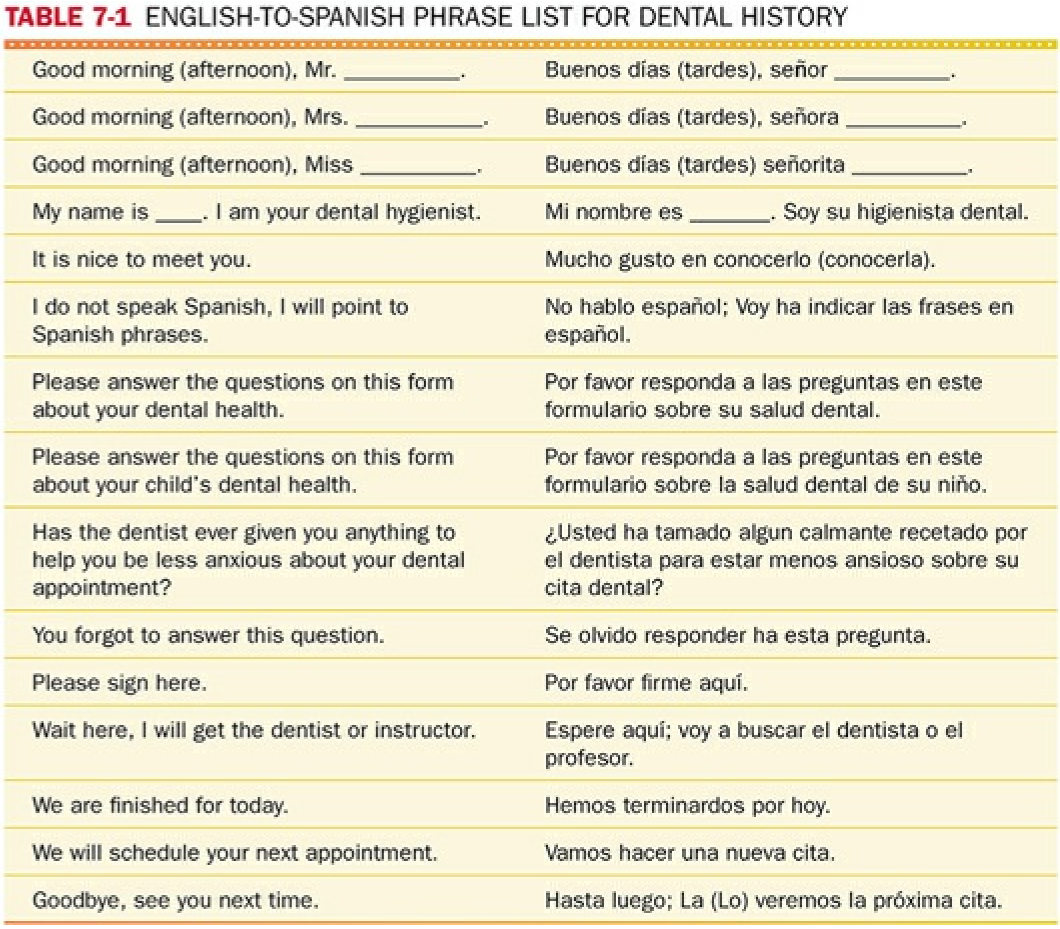


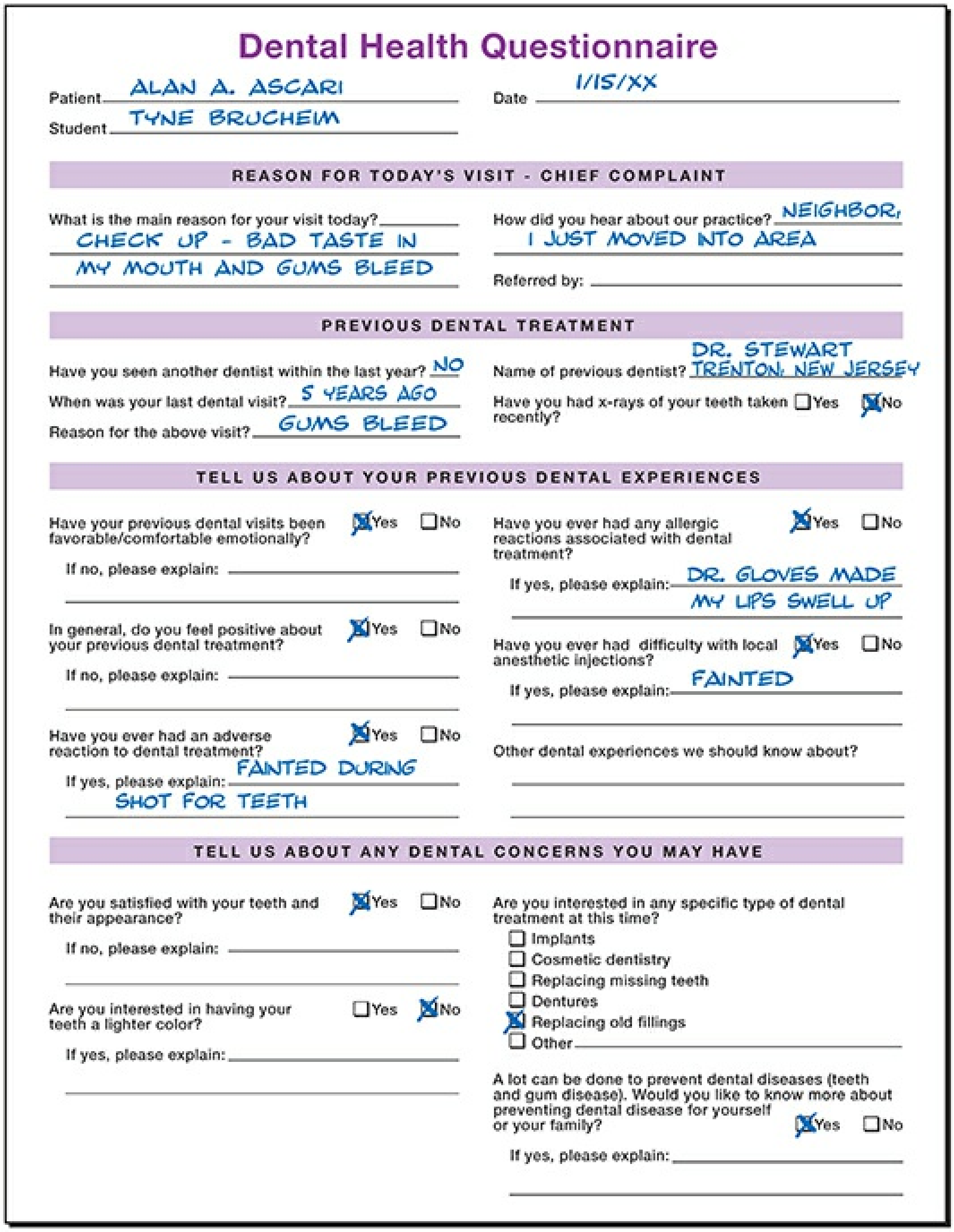
TABLE 7-1 ENGLISH-TO-SPANISH PHRASE LIST FOR DENTAL HISTORY

Good morning (afternoon), Mr. __________.	Buenos días (tardes), señor __________.
Good morning (afternoon), Mrs. ___________.	Buenos días (tardes), señora __________.
Good morning (afternoon), Miss __________.	Buenos días (tardes) señorita __________.
My name is ____. I am your dental hygienist.	Mi nombre es _______. Soy su higienista dental.
It is nice to meet you.	Mucho gusto en conocerlo (conocerla).
I do not speak Spanish, I will point to Spanish phrases.	No hablo español; Voy ha indicar las frases en español.
Please answer the questions on this form about your dental health.	Por favor responda a las preguntas en este formulario sobre su salud dental.
Please answer the questions on this form about your child's dental health.	Por favor responda a las preguntas en este formulario sobre la salud dental de su niño.
Has the dentist ever given you anything to help you be less anxious about your dental appointment?	¿Usted ha tamado algun calmante recetado por el dentista para estar menos ansioso sobre su cita dental?
You forgot to answer this question.	Se olvido responder ha esta pregunta.
Please sign here.	Por favor firme aquí.
Wait here, I will get the dentist or instructor.	Espere aquí; voy a buscar el dentista o el profesor.
We are finished for today.	Hemos terminardos por hoy.
We will schedule your next appointment.	Vamos hacer una nueva cita.
Goodbye, see you next time.	Hasta luego; La (Lo) veremos la próxima cita.

SECTION 6 • **Practical Focus—Fictitious Patient Cases**

DIRECTIONS

- This section contains completed dental health questionnaires for patients A to E.
- In a clinical setting, you will gather additional information about your patient with each assessment procedure that you perform. When determining treatment considerations and modifications for patients A to E, you should take into account the health history and over-the-counter/prescription drug information that was revealed for each patient in Module 5: Medical History.
- Review the completed dental health questionnaires for patients A to E in Figures 7-14A to 7-18B. For each patient, make a list of any concerns, problems, or treatment modifications that will be necessary based on the information on the dental health history.



Dental Health Questionnaire

Patient ALAN A. ASCARI

Date 1/15/XX

Student TYNE BRUCHEIM

REASON FOR TODAY'S VISIT - CHIEF COMPLAINT

What is the main reason for your visit today? CHECK UP - BAD TASTE IN MY MOUTH AND GUMS BLEED

How did you hear about our practice? NEIGHBOR, I JUST MOVED NTO AREA

Referred by:

PREVIOUS DENTAL TREATMENT

Have you seen another dentist within the last year? NO

When was your last dental visit? 5 YEARS AGO

Reason for the above visit? GUMS BLEED

Name of previous dentist? DR. STEWART TRENTON, NEW JERSEY

Have you had x-rays of your teeth taken recently? ☐ Yes ☒ No

TELL US ABOUT YOUR PREVIOUS DENTAL EXPERIENCES

Have your previous dental visits been favorable/comfortable emotionally? ☒ Yes ☐ No

If no, please explain:

In general, do you feel positive about your previous dental treatment? ☒ Yes ☐ No

If no, please explain:

Have you ever had an adverse reaction to dental treatment? ☒ Yes ☐ No

If yes, please explain: FANTED DURING SHOT FOR TEETH

Have you ever had any allergic reactions associated with dental treatment? ☒ Yes ☐ No

If yes, please explain: DR. GLOVES MADE MY LIPS SWELL UP

Have you ever had difficulty with local anesthetic injections? ☒ Yes ☐ No

If yes, please explain: FAINTED

Other dental experiences we should know about?

TELL US ABOUT ANY DENTAL CONCERNS YOU MAY HAVE

Are you satisfied with your teeth and their appearance? ☒ Yes ☐ No

If no, please explain:

Are you interested in having your teeth a lighter color? ☐ Yes ☒ No

If yes, please explain:

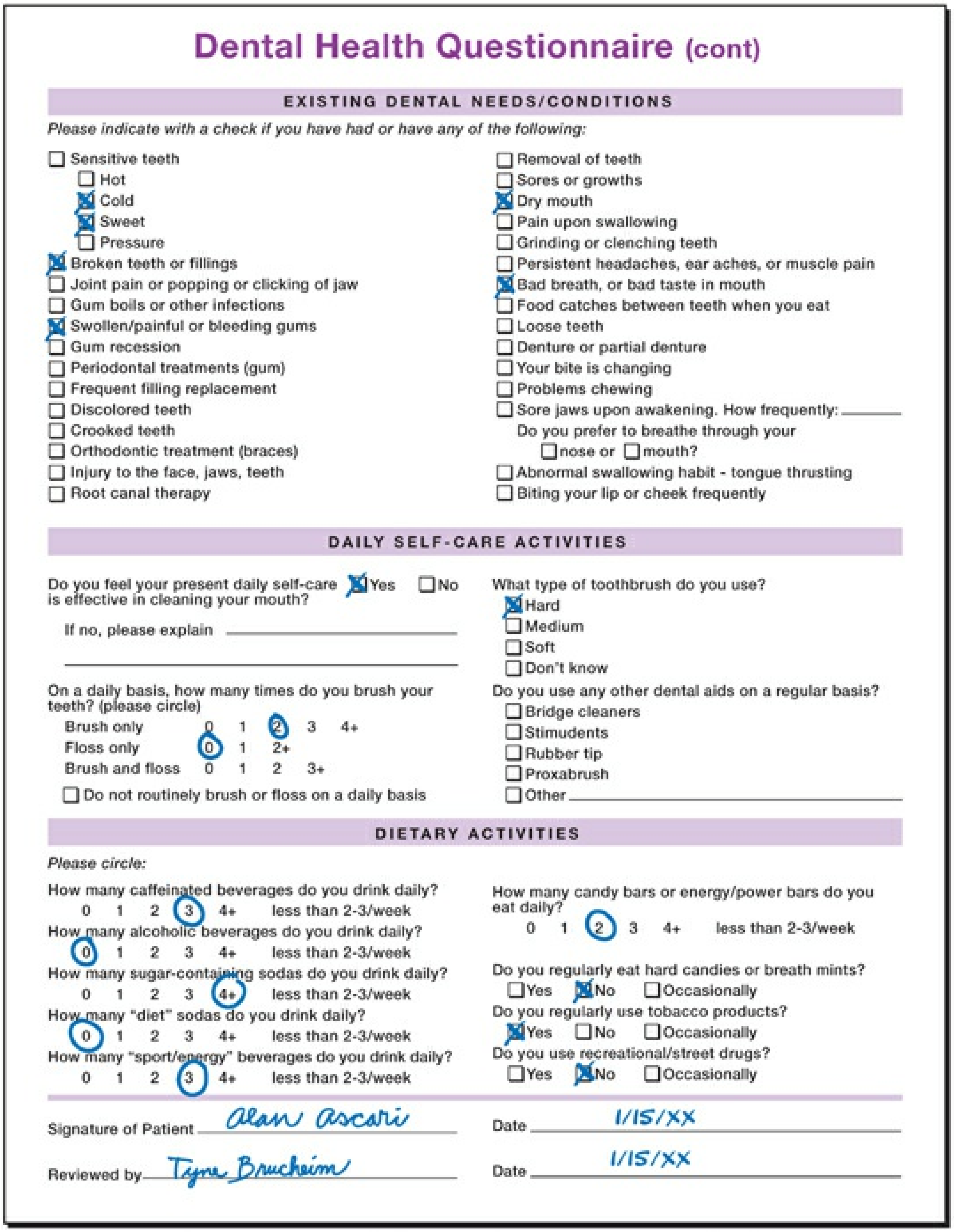
Are you interested in any specific type of dental treatment at this time?

- ☐ Implants
- ☐ Cosmetic dentistry
- ☐ Replacing missing teeth
- ☐ Dentures
- ☒ Replacing old fillings
- ☐ Other

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? ☒ Yes ☐ No

If yes, please explain:

FIGURE 7-14A **Page 1 of the dental health questionnaire for fictitious patient Mr. Ascari.** Page 2 of Mr. Ascari's form is on the following page.



Dental Health Questionnaire (cont)

EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if you have had or have any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☒ Cold
  - ☒ Sweet
  - ☐ Pressure
- ☒ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☒ Swollen/painful or bleeding gums
- ☐ Gum recession
- ☐ Periodontal treatments (gum)
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☒ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☒ Bad breath, or bad taste in mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Denture or partial denture
- ☐ Your bite is changing
- ☐ Problems chewing
- ☐ Sore jaws upon awakening. How frequently: ______
  - Do you prefer to breathe through your ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting your lip or cheek frequently

DAILY SELF-CARE ACTIVITIES

Do you feel your present daily self-care is effective in cleaning your mouth? ☒ Yes ☐ No

If no, please explain ________________

On a daily basis, how many times do you brush your teeth? (please circle)

Brush only 0 1 [✓ 2] 3 4+

Floss only [✓ 0] 1 2+

Brush and floss 0 1 2 3+

☐ Do not routinely brush or floss on a daily basis

What type of toothbrush do you use?

- ☒ Hard
- ☐ Medium
- ☐ Soft
- ☐ Don't know

Do you use any other dental aids on a regular basis?

- ☐ Bridge cleaners
- ☐ Stimudents
- ☐ Rubber tip
- ☐ Proxabrush
- ☐ Other ____________

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages do you drink daily?
0 1 2 [✓ 3] 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many sugar-containing sodas do you drink daily?
0 1 2 3 [✓ 4+] less than 2-3/week

How many "diet" sodas do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
0 1 2 [✓ 3] 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 [✓ 2] 3 4+ less than 2-3/week

Do you regularly eat hard candies or breath mints?
☐ Yes ☒ No ☐ Occasionally

Do you regularly use tobacco products?
☒ Yes ☐ No ☐ Occasionally

Do you use recreational/street drugs?
☐ Yes ☒ No ☐ Occasionally

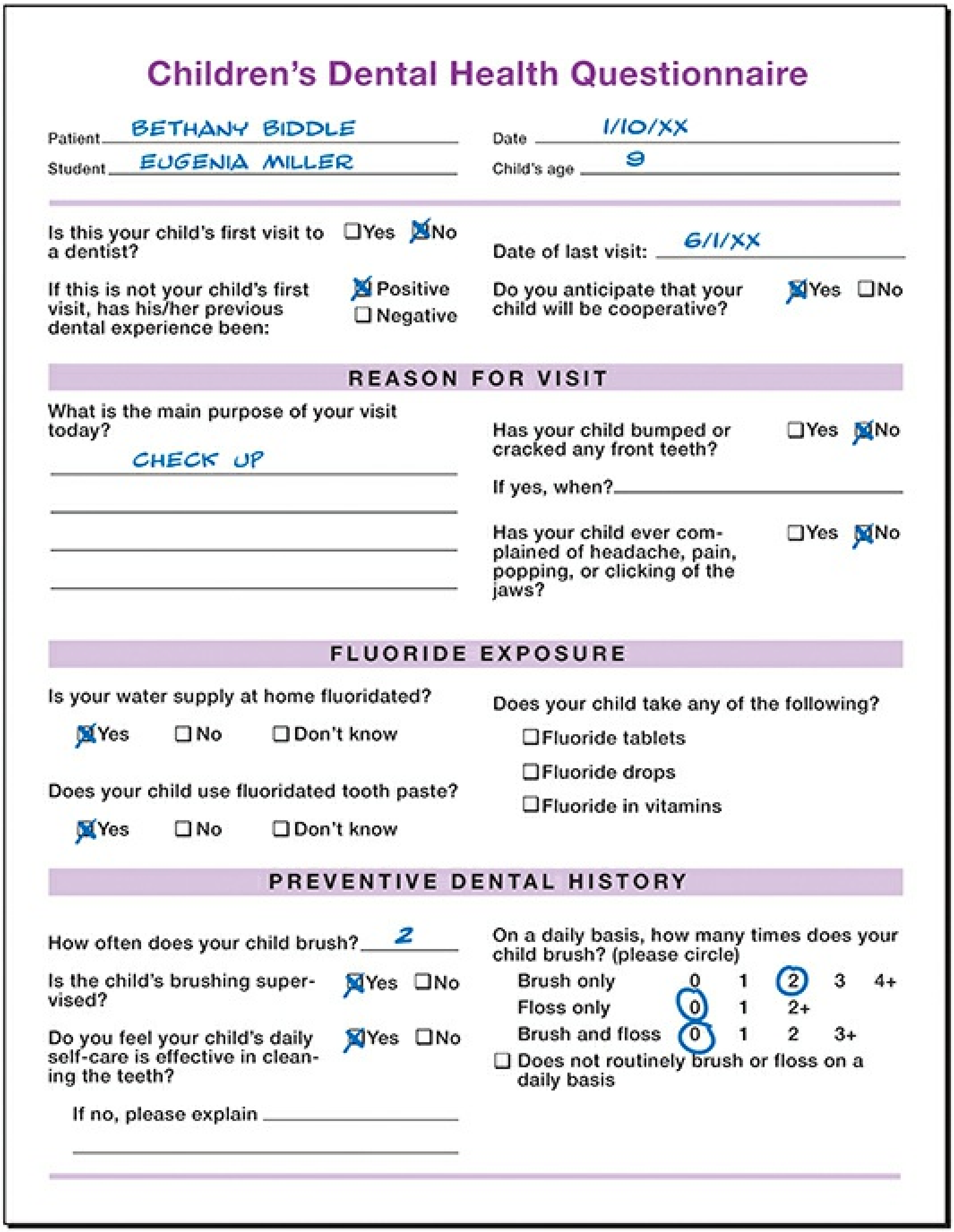
Signature of Patient Alan Ascari

Date 1/15/XX

Reviewed by Tyne Bruchaim

Date 1/15/XX

FIGURE 7-14B **Page 2 of Mr. Ascari's dental health questionnaire.**



Children's Dental Health Questionnaire

Patient BETHANY BIDDLE

Student EUGENIA MILLER

Date 1/10/XX

Child's age 9

Is this your child's first visit to a dentist? ☐Yes ☒No

If this is not your child's first visit, has his/her previous dental experience been: ☒ Positive ☐ Negative

Date of last visit: 6/1/XX

Do you anticipate that your child will be cooperative? ☒Yes ☐No

REASON FOR VISIT

What is the main purpose of your visit today?

CHECK UP

Has your child bumped or cracked any front teeth? ☐Yes ☒No

If yes, when?

Has your child ever complained of headache, pain, popping, or clicking of the jaws? ☐Yes ☒No

FLUORIDE EXPOSURE

Is your water supply at home fluoridated?

☒Yes ☐ No ☐ Don't know

Does your child use fluoridated tooth paste?

☒Yes ☐ No ☐ Don't know

Does your child take any of the following?

- ☐Fluoride tablets
- ☐Fluoride drops
- ☐Fluoride in vitamins

PREVENTIVE DENTAL HISTORY

How often does your child brush? 2

Is the child's brushing supervised? ☒Yes ☐No

Do you feel your child's daily self-care is effective in cleaning the teeth? ☒Yes ☐No

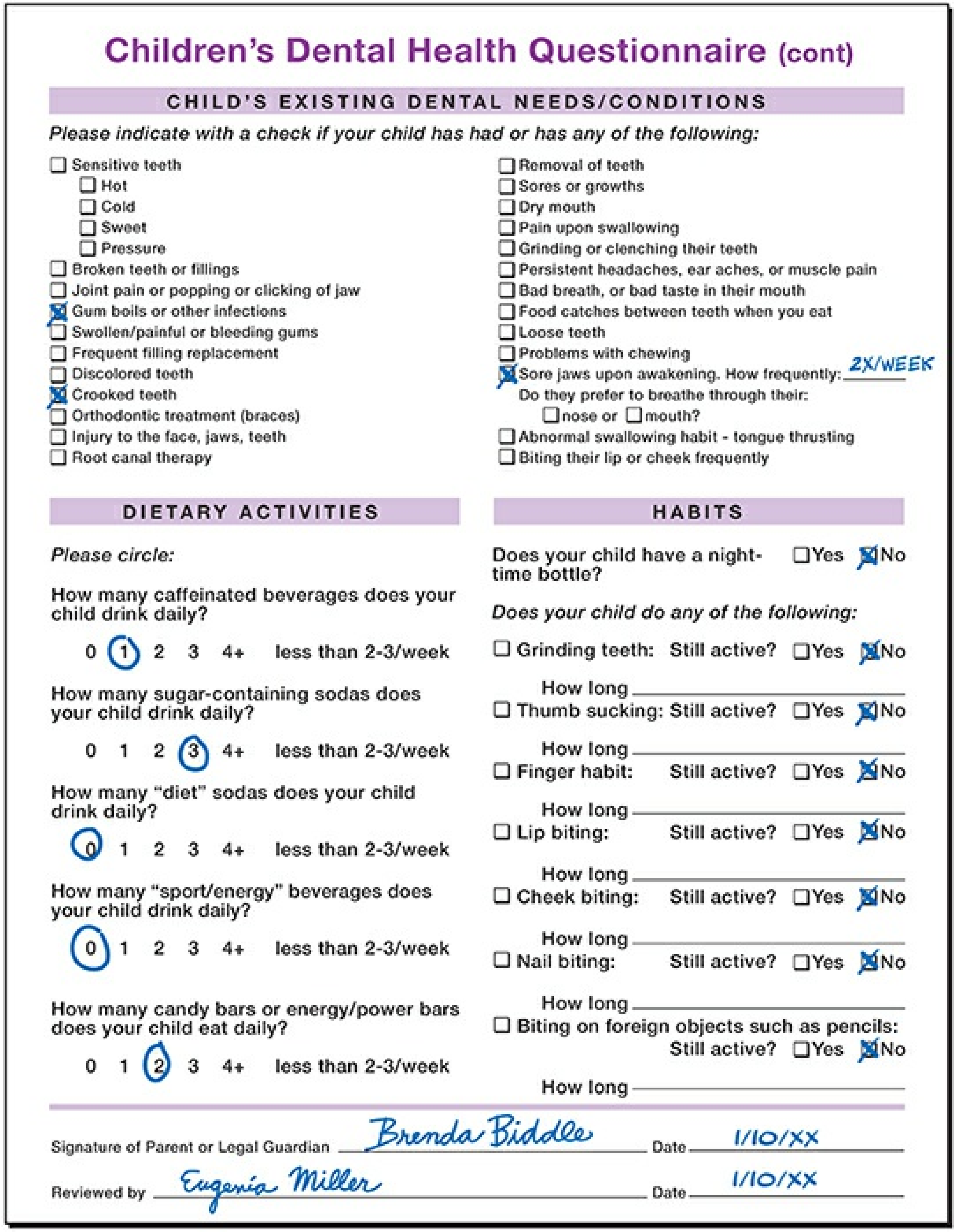
If no, please explain

On a daily basis, how many times does your child brush? (please circle)

Brush only	0	1	[✓ 2]	3	4+
Floss only	[✓ 0]	1	2+		
Brush and floss	[✓ 0]	1	2	3+	

☐ Does not routinely brush or floss on a daily basis

FIGURE 7-15A Page 1 of the dental health questionnaire for fictitious patient Bethany Biddle. Page 2 of Bethany Biddle's form is on the following page.



Children's Dental Health Questionnaire (cont)

CHILD'S EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if your child has had or has any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☐ Cold
  - ☐ Sweet
  - ☐ Pressure
- ☐ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☒ Gum boils or other infections
- ☐ Swollen/painful or bleeding gums
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☒ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching their teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☐ Bad breath, or bad taste in their mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Problems with chewing
- ☒ Sore jaws upon awakening. How frequently: 2X/WEEK
  - Do they prefer to breathe through their: ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting their lip or cheek frequently

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages does your child drink daily?

0 [✓ 1] 2 3 4+ less than 2-3/week

How many sugar-containing sodas does your child drink daily?

0 1 2 [✓ 3] 4+ less than 2-3/week

How many "diet" sodas does your child drink daily?

[✓ 0] 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages does your child drink daily?

[✓ 0] 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars does your child eat daily?

0 1 [✓ 2] 3 4+ less than 2-3/week

HABITS

Does your child have a night-time bottle? ☐ Yes ☒ No

Does your child do any of the following:

☐ Grinding teeth: Still active? ☐ Yes ☒ No

How long ______

☐ Thumb sucking: Still active? ☐ Yes ☒ No

How long ______

☐ Finger habit: Still active? ☐ Yes ☒ No

How long ______

☐ Lip biting: Still active? ☐ Yes ☒ No

How long ______

☐ Cheek biting: Still active? ☐ Yes ☒ No

How long ______

☐ Nail biting: Still active? ☐ Yes ☒ No

How long ______

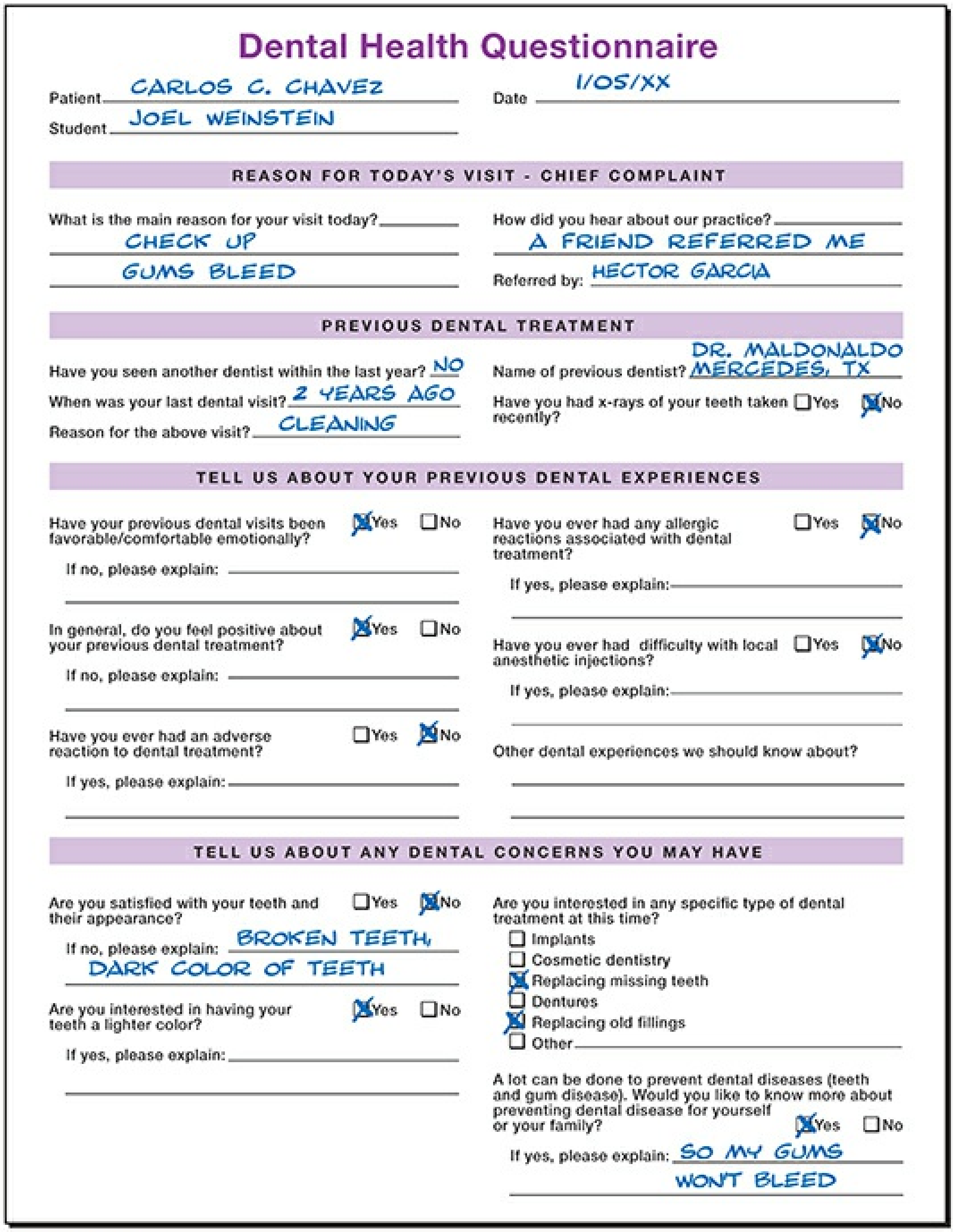
☐ Biting on foreign objects such as pencils: Still active? ☐ Yes ☒ No

How long ______

Signature of Parent or Legal Guardian Brenda Biddle Date 1/10/XX

Reviewed by Eugenia Miller Date 1/10/XX

FIGURE 7-15B Page 2 of the dental health questionnaire for fictitious patient Bethany Biddle.



Dental Health Questionnaire

Patient CARLOS C. CHAVEZ

Date 1/05/XX

Student JOEL WEINSTEIN

REASON FOR TODAY'S VISIT - CHIEF COMPLAINT

What is the main reason for your visit today? CHECK UP GUMS BLEED

How did you hear about our practice? A FRIEND REFERRED ME

Referred by: HECTOR GARCIA

PREVIOUS DENTAL TREATMENT

Have you seen another dentist within the last year? NO

When was your last dental visit? 2 YEARS AGO

Reason for the above visit? CLEANING

Name of previous dentist? DR. MALDONALDO MERCEDES, TX

Have you had x-rays of your teeth taken recently? ☐ Yes ☒ No

TELL US ABOUT YOUR PREVIOUS DENTAL EXPERIENCES

Have your previous dental visits been favorable/comfortable emotionally? ☒ Yes ☐ No

If no, please explain:

In general, do you feel positive about your previous dental treatment? ☒ Yes ☐ No

If no, please explain:

Have you ever had an adverse reaction to dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had any allergic reactions associated with dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had difficulty with local anesthetic injections? ☐ Yes ☒ No

If yes, please explain:

Other dental experiences we should know about?

TELL US ABOUT ANY DENTAL CONCERNS YOU MAY HAVE

Are you satisfied with your teeth and their appearance? ☐ Yes ☒ No

If no, please explain: BROKEN TEETH, DARK COLOR OF TEETH

Are you interested in having your teeth a lighter color? ☒ Yes ☐ No

If yes, please explain:

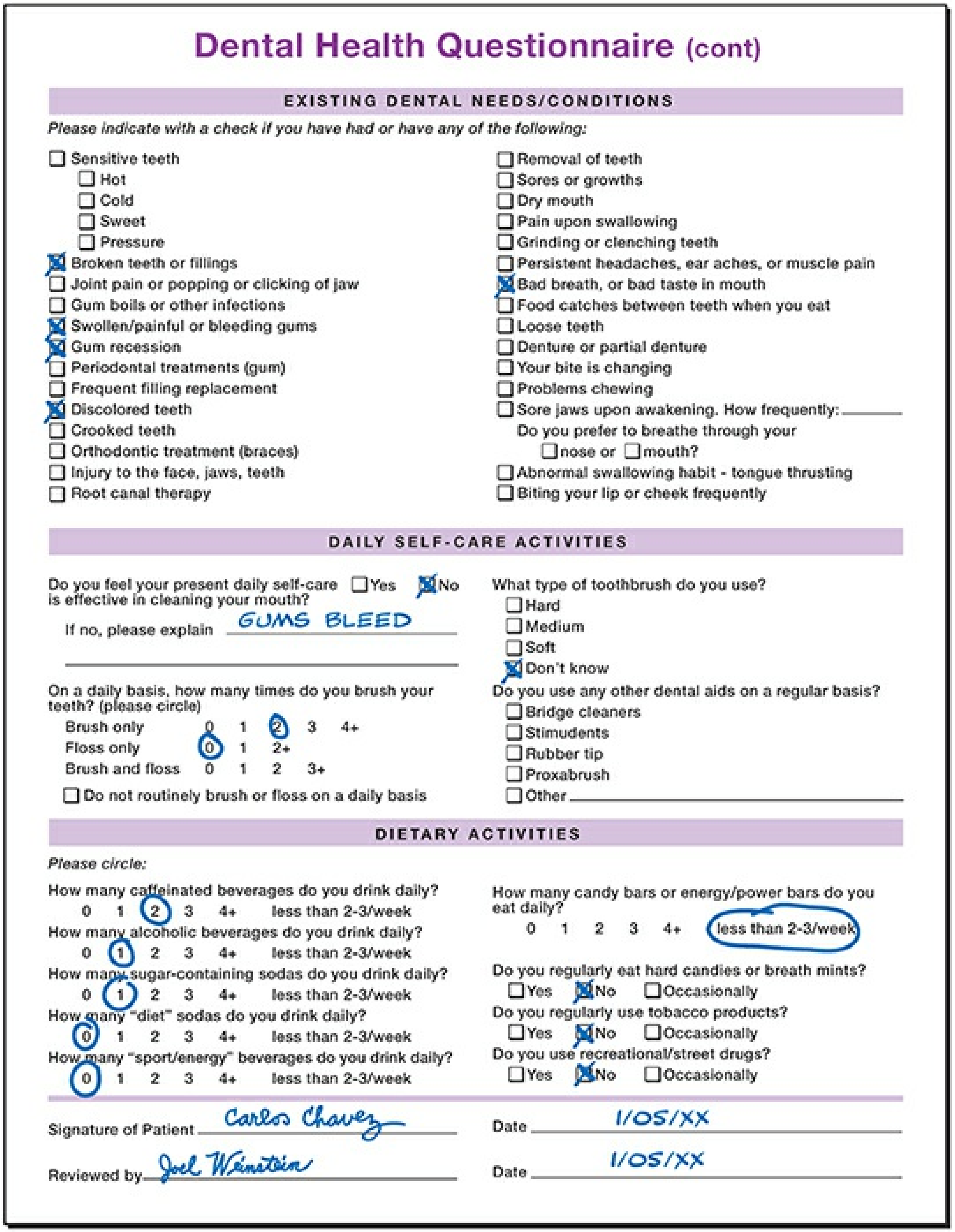
Are you interested in any specific type of dental treatment at this time?

- ☐ Implants
- ☐ Cosmetic dentistry
- ☒ Replacing missing teeth
- ☐ Dentures
- ☒ Replacing old fillings
- ☐ Other

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? ☒ Yes ☐ No

If yes, please explain: SO MY GUMS WON'T BLEED

FIGURE 7-16A Page 1 of the dental health questionnaire for fictitious patient Mr. Chavez. Page 2 of Mr. Chavez's form is on the following page.



Dental Health Questionnaire (cont)

EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if you have had or have any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☐ Cold
  - ☐ Sweet
  - ☐ Pressure
- ☒ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☒ Swollen/painful or bleeding gums
- ☒ Gum recession
- ☐ Periodontal treatments (gum)
- ☐ Frequent filling replacement
- ☒ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☒ Bad breath, or bad taste in mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Denture or partial denture
- ☐ Your bite is changing
- ☐ Problems chewing
- ☐ Sore jaws upon awakening. How frequently: ______
  Do you prefer to breathe through your ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting your lip or cheek frequently

DAILY SELF-CARE ACTIVITIES

Do you feel your present daily self-care is effective in cleaning your mouth? ☐ Yes ☒ No

If no, please explain GUMS BLEED

On a daily basis, how many times do you brush your teeth? (please circle)

Brush only 0 1 [✓ 2] 3 4+
Floss only [✓ 0] 1 2+
Brush and floss 0 1 2 3+

☐ Do not routinely brush or floss on a daily basis

What type of toothbrush do you use?

- ☐ Hard
- ☐ Medium
- ☐ Soft
- ☒ Don't know

Do you use any other dental aids on a regular basis?

- ☐ Bridge cleaners
- ☐ Stimudents
- ☐ Rubber tip
- ☐ Proxabrush
- ☐ Other ______

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages do you drink daily?
0 1 [✓ 2] 3 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
0 [✓ 1] 2 3 4+ less than 2-3/week

How many sugar-containing sodas do you drink daily?
0 [✓ 1] 2 3 4+ less than 2-3/week

How many "diet" sodas do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 2 3 4+ [✓ less than 2-3/week]

Do you regularly eat hard candies or breath mints?
☐ Yes ☒ No ☐ Occasionally

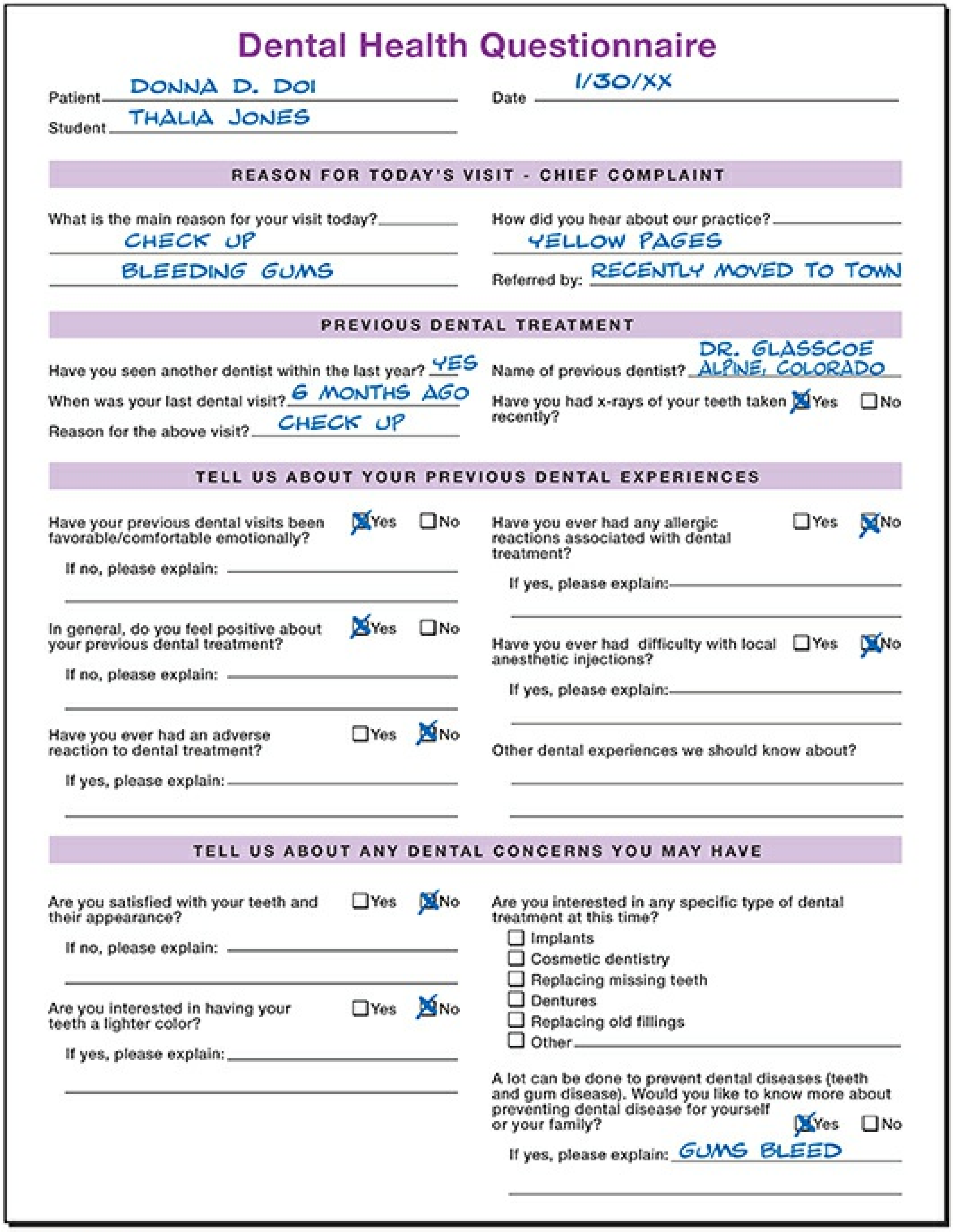
Do you regularly use tobacco products?
☐ Yes ☒ No ☐ Occasionally

Do you use recreational/street drugs?
☐ Yes ☒ No ☐ Occasionally

Signature of Patient Carlos Chavez Date 1/05/XX

Reviewed by Joel Weinstein Date 1/05/XX

FIGURE 7-16B Page 2 of Mr. Chavez's dental health questionnaire.



Dental Health Questionnaire

Patient DONNA D. DOI

Date 1/30/XX

Student THALIA JONES

REASON FOR TODAY'S VISIT - CHIEF COMPLAINT

What is the main reason for your visit today? CHECK UP BLEEDING GUMS

How did you hear about our practice? YELLOW PAGES

Referred by: RECENTLY MOVED TO TOWN

PREVIOUS DENTAL TREATMENT

Have you seen another dentist within the last year? YES

When was your last dental visit? 6 MONTHS AGO

Reason for the above visit? CHECK UP

Name of previous dentist? DR. GLASSCOE ALPINE, COLORADO

Have you had x-rays of your teeth taken recently? ☒ Yes ☐ No

TELL US ABOUT YOUR PREVIOUS DENTAL EXPERIENCES

Have your previous dental visits been favorable/comfortable emotionally? ☒ Yes ☐ No

If no, please explain:

In general, do you feel positive about your previous dental treatment? ☒ Yes ☐ No

If no, please explain:

Have you ever had an adverse reaction to dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had any allergic reactions associated with dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had difficulty with local anesthetic injections? ☐ Yes ☒ No

If yes, please explain:

Other dental experiences we should know about?

TELL US ABOUT ANY DENTAL CONCERNS YOU MAY HAVE

Are you satisfied with your teeth and their appearance? ☐ Yes ☒ No

If no, please explain:

Are you interested in having your teeth a lighter color? ☐ Yes ☒ No

If yes, please explain:

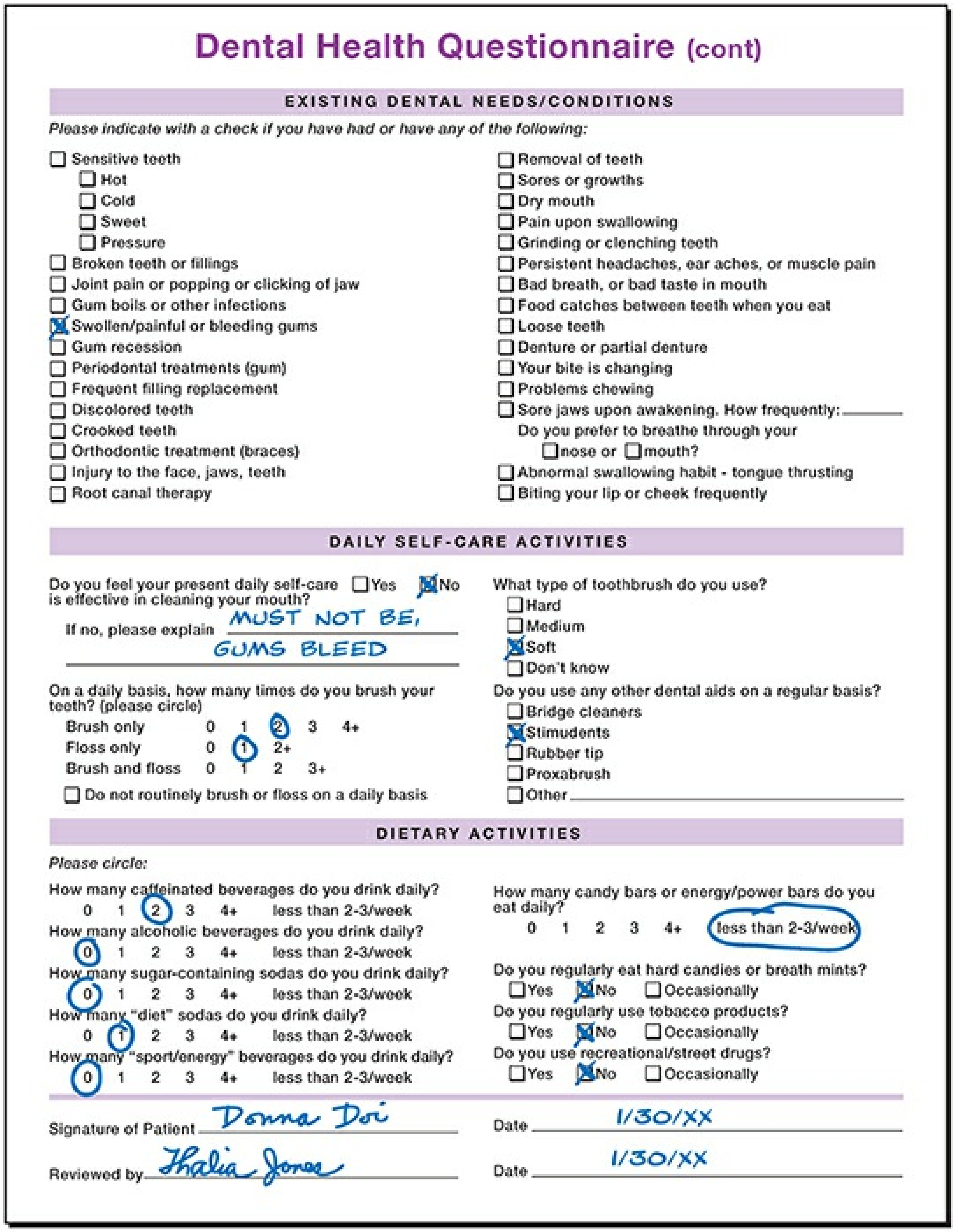
Are you interested in any specific type of dental treatment at this time?

- ☐ Implants
- ☐ Cosmetic dentistry
- ☐ Replacing missing teeth
- ☐ Dentures
- ☐ Replacing old fillings
- ☐ Other

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? ☒ Yes ☐ No

If yes, please explain: GUMS BLEED

FIGURE 7-17A Page 1 of the dental health questionnaire for fictitious patient Mrs. Doi. Page 2 of Mrs. Doi's form is on the following page.



Dental Health Questionnaire (cont)

EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if you have had or have any of the following:

- ☐ Sensitive teeth
    - ☐ Hot
    - ☐ Cold
    - ☐ Sweet
    - ☐ Pressure
- ☐ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☒ Swollen/painful or bleeding gums
- ☐ Gum recession
- ☐ Periodontal treatments (gum)
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☐ Bad breath, or bad taste in mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Denture or partial denture
- ☐ Your bite is changing
- ☐ Problems chewing
- ☐ Sore jaws upon awakening. How frequently: ______
    - Do you prefer to breathe through your ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting your lip or cheek frequently

DAILY SELF-CARE ACTIVITIES

Do you feel your present daily self-care is effective in cleaning your mouth? ☐ Yes ☒ No

If no, please explain MUST NOT BE, GUMS BLEED

On a daily basis, how many times do you brush your teeth? (please circle)

Brush only 0 1 [✓ 2] 3 4+
Floss only 0 [✓ 1] 2+
Brush and floss 0 1 2 3+

☐ Do not routinely brush or floss on a daily basis

What type of toothbrush do you use?

- ☐ Hard
- ☐ Medium
- ☒ Soft
- ☐ Don't know

Do you use any other dental aids on a regular basis?

- ☐ Bridge cleaners
- ☒ Stimudents
- ☐ Rubber tip
- ☐ Proxabrush
- ☐ Other ______

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages do you drink daily?
0 1 [✓ 2] 3 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many sugar-containing sodas do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many "diet" sodas do you drink daily?
0 [✓ 1] 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 2 3 4+ [✓ less than 2-3/week]

Do you regularly eat hard candies or breath mints?
☐ Yes ☒ No ☐ Occasionally

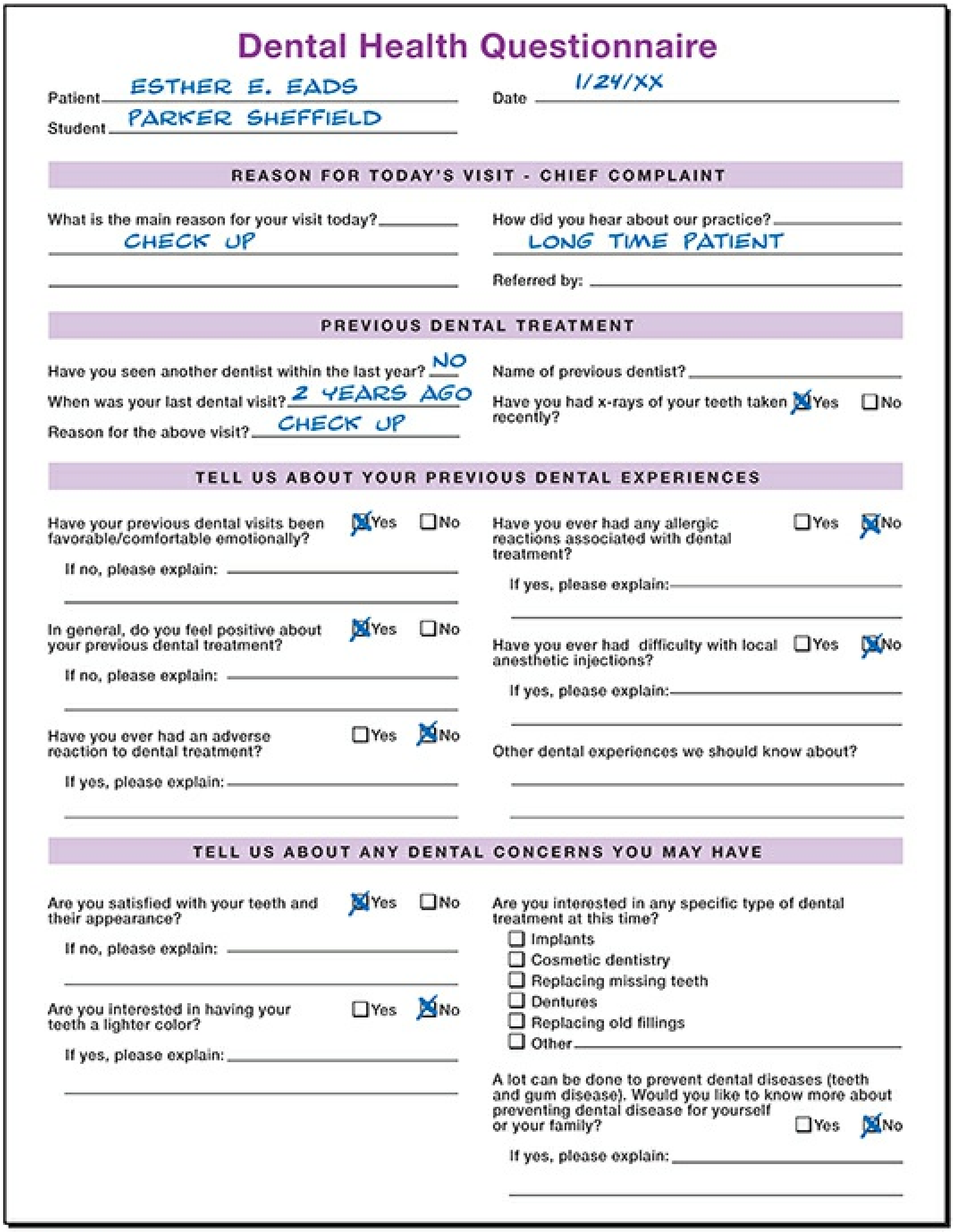
Do you regularly use tobacco products?
☐ Yes ☒ No ☐ Occasionally

Do you use recreational/street drugs?
☐ Yes ☒ No ☐ Occasionally

Signature of Patient Donna Doi
Date 1/30/XX

Reviewed by Thalia Jones
Date 1/30/XX

FIGURE 7-17B Page 2 of Mrs. Doi's dental health questionnaire.



Dental Health Questionnaire

Patient ESTHER E. EADS
Date 1/24/XX
Student PARKER SHEFFIELD

REASON FOR TODAY'S VISIT - CHIEF COMPLAINT

What is the main reason for your visit today? CHECK UP

How did you hear about our practice? LONG TIME PATIENT

Referred by:

PREVIOUS DENTAL TREATMENT

Have you seen another dentist within the last year? NO

When was your last dental visit? 2 YEARS AGO

Reason for the above visit? CHECK UP

Name of previous dentist?

Have you had x-rays of your teeth taken recently? ☒ Yes ☐ No

TELL US ABOUT YOUR PREVIOUS DENTAL EXPERIENCES

Have your previous dental visits been favorable/comfortable emotionally? ☒ Yes ☐ No

If no, please explain:

In general, do you feel positive about your previous dental treatment? ☒ Yes ☐ No

If no, please explain:

Have you ever had an adverse reaction to dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had any allergic reactions associated with dental treatment? ☐ Yes ☒ No

If yes, please explain:

Have you ever had difficulty with local anesthetic injections? ☐ Yes ☒ No

If yes, please explain:

Other dental experiences we should know about?

TELL US ABOUT ANY DENTAL CONCERNS YOU MAY HAVE

Are you satisfied with your teeth and their appearance? ☒ Yes ☐ No

If no, please explain:

Are you interested in having your teeth a lighter color? ☐ Yes ☒ No

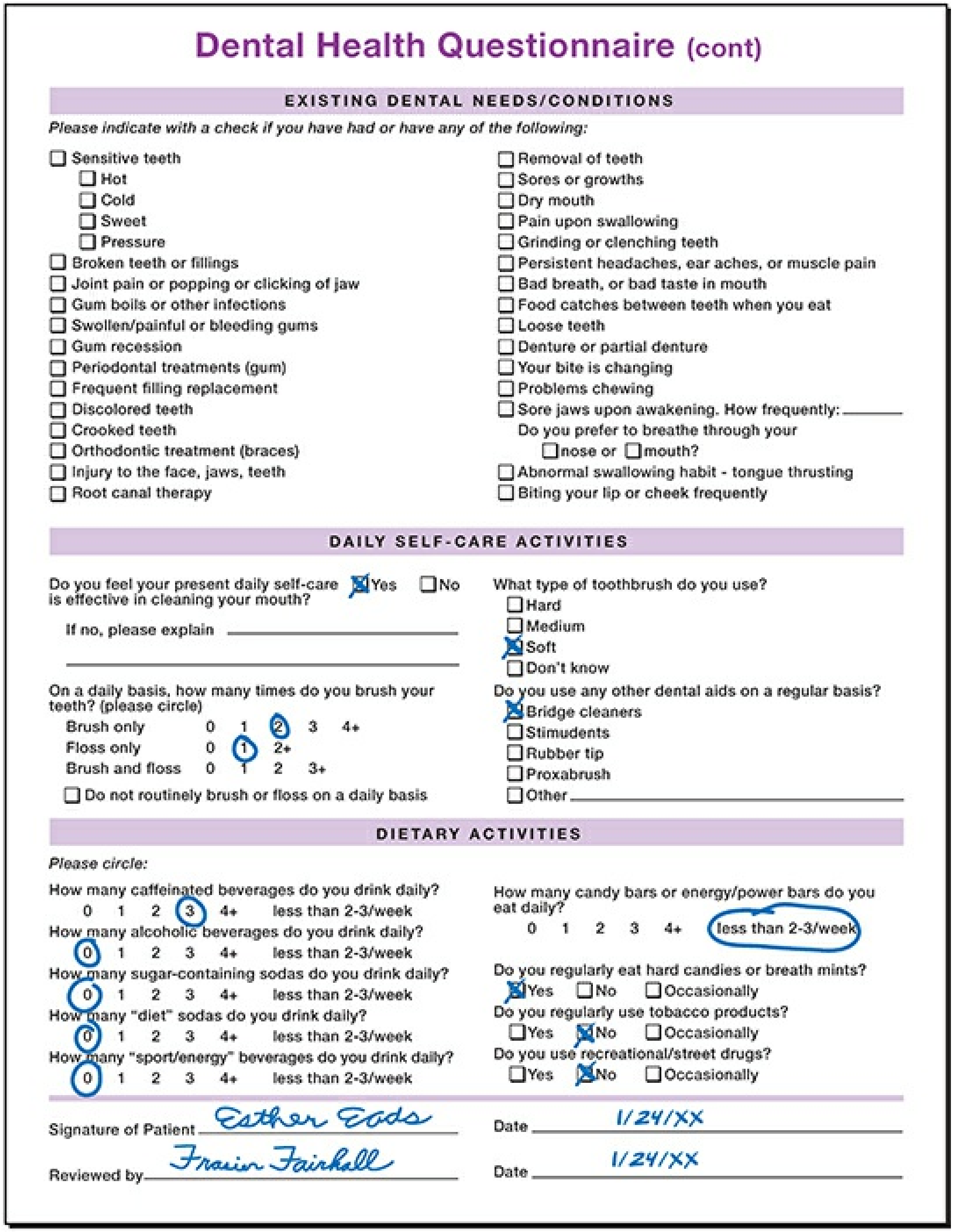
If yes, please explain:

Are you interested in any specific type of dental treatment at this time?
- ☐ Implants
- ☐ Cosmetic dentistry
- ☐ Replacing missing teeth
- ☐ Dentures
- ☐ Replacing old fillings
- ☐ Other

A lot can be done to prevent dental diseases (teeth and gum disease). Would you like to know more about preventing dental disease for yourself or your family? ☐ Yes ☒ No

If yes, please explain:

FIGURE 7-18A Page 1 of the dental health questionnaire for fictitious patient Ms. Eads. Page 2 of Ms. Eads's form is on the following page.



Dental Health Questionnaire (cont)

EXISTING DENTAL NEEDS/CONDITIONS

Please indicate with a check if you have had or have any of the following:

- ☐ Sensitive teeth
  - ☐ Hot
  - ☐ Cold
  - ☐ Sweet
  - ☐ Pressure
- ☐ Broken teeth or fillings
- ☐ Joint pain or popping or clicking of jaw
- ☐ Gum boils or other infections
- ☐ Swollen/painful or bleeding gums
- ☐ Gum recession
- ☐ Periodontal treatments (gum)
- ☐ Frequent filling replacement
- ☐ Discolored teeth
- ☐ Crooked teeth
- ☐ Orthodontic treatment (braces)
- ☐ Injury to the face, jaws, teeth
- ☐ Root canal therapy
- ☐ Removal of teeth
- ☐ Sores or growths
- ☐ Dry mouth
- ☐ Pain upon swallowing
- ☐ Grinding or clenching teeth
- ☐ Persistent headaches, ear aches, or muscle pain
- ☐ Bad breath, or bad taste in mouth
- ☐ Food catches between teeth when you eat
- ☐ Loose teeth
- ☐ Denture or partial denture
- ☐ Your bite is changing
- ☐ Problems chewing
- ☐ Sore jaws upon awakening. How frequently: ______
  Do you prefer to breathe through your ☐ nose or ☐ mouth?
- ☐ Abnormal swallowing habit - tongue thrusting
- ☐ Biting your lip or cheek frequently

DAILY SELF-CARE ACTIVITIES

Do you feel your present daily self-care is effective in cleaning your mouth? ☒ Yes ☐ No

If no, please explain ______

On a daily basis, how many times do you brush your teeth? (please circle)

Brush only 0 1 [✓ 2] 3 4+
Floss only 0 [✓ 1] 2+
Brush and floss 0 1 2 3+

☐ Do not routinely brush or floss on a daily basis

What type of toothbrush do you use?

- ☐ Hard
- ☐ Medium
- ☒ Soft
- ☐ Don't know

Do you use any other dental aids on a regular basis?

- ☒ Bridge cleaners
- ☐ Stimudents
- ☐ Rubber tip
- ☐ Proxabrush
- ☐ Other ______

DIETARY ACTIVITIES

Please circle:

How many caffeinated beverages do you drink daily?
0 1 2 [✓ 3] 4+ less than 2-3/week

How many alcoholic beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many sugar-containing sodas do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many "diet" sodas do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many "sport/energy" beverages do you drink daily?
[✓ 0] 1 2 3 4+ less than 2-3/week

How many candy bars or energy/power bars do you eat daily?
0 1 2 3 4+ [✓ less than 2-3/week]

Do you regularly eat hard candies or breath mints?
☒ Yes ☐ No ☐ Occasionally

Do you regularly use tobacco products?
☐ Yes ☒ No ☐ Occasionally

Do you use recreational/street drugs?
☐ Yes ☒ No ☐ Occasionally

Signature of Patient Esther Eads
Date 1/24/XX

Reviewed by Frasier Fairhall
Date 1/24/XX

FIGURE 7-18B Page 2 of Ms. Eads's dental health questionnaire.

SECTION 7 • Skill Check

Technique Skill Checklist: Dental Health Questionnaire

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Reads through every line on the completed dental health questionnaire. Identifies any unanswered questions on the form and follows up to obtain complete information.		
Makes notes about any information that is not clear or difficult to read. Confirms that the patient has signed and dated the form.		
Circles concerns in red pencil. Reads through all handwritten responses and circles concerns in red.		
Formulates a list of follow-up questions to review with the patient.		
Formulates a preliminary opinion regarding any treatment alterations that may be needed based on the information gathered during the dental health history assessment. Discusses possible treatment alterations with the clinical instructor.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for		

each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

MODULE

8

VITAL SIGNS: TEMPERATURE

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This is the first of three modules covering the assessment of vital signs that provide essential information about a patient's health status. The four vital signs are temperature, pulse, respiration, and blood pressure. This module covers the technique for measuring oral temperature. Pulse and respiration are discussed in Module 9. The technique for blood pressure assessment is described in Module 10.

This module covers oral temperature taking, including:

- Taking an oral temperature
- Preparing the patient for the procedure
- Step-by-step peak procedures for taking an oral temperature

MODULE OUTLINE

SECTION 1

Introduction to Vital Signs Assessment

Vital Signs Overview
Why Are Vital Signs Important?

When an Oral Temperature Should Not Be Taken
Understanding Temperature Scales
Equipment Selection

SECTION 2 Peak Procedures

Temperature Assessment with a Glass Thermometer
Procedure 8-1. Reading a Glass Thermometer
Preparing a Glass Thermometer for Use
Procedure 8-2. Shaking Down a Glass Thermometer
Positioning the Thermometer in the Mouth
Procedure for Temperature Taking
Procedure 8-3. Assessing Oral Temperature with a Glass Thermometer

SECTION 3 Ready References

Body Temperature Ranges
Back and Forth—From Fahrenheit to Celsius
Variables that Commonly Affect Temperature
Impact of Temperature Readings on Dental Treatment

SECTION 4 The Human Element

Through the Eyes of a Student
English-to-Spanish Phrase List

SECTION 5 Skill Check

KEY TERMS

Vital signs • **Temperature** • **Pulse** • **Respiration** • **Blood pressure** • **Celsius/Centigrade** • **Fahrenheit** • **Thermometer** • **Heat pockets**

OBJECTIVES

- Define the term *vital signs* and discuss how vital signs reflect changes in a person's health status.
- Discuss the dental health care provider's responsibilities in assessing

temperature.

- Describe factors that can affect a person’s body temperature.
- State the variables that can affect accurate temperature assessment.
- Prior to assessing temperature, explain to the patient why an accurate body temperature is needed.
- Describe the equipment to the patient and explain what to expect during the procedure.
- Answer any questions regarding the procedure that the patient might have.
- Accurately assess, interpret, and document body temperature.
- Provide information to the patient about the readings that you obtain.
- Properly use and care for the equipment used for measuring oral temperature.
- Recognize oral temperature findings that have implications in planning dental treatment.
- Provide appropriate referral to a physician when findings indicate the need for further evaluation.
- Compare temperature findings in the fictitious patient cases A to E (in Module 10) to the normal temperature range.
- Demonstrate knowledge of temperature assessment by applying concepts from this module to the fictitious patient cases A to E in Module 10, Vital Signs: Blood Pressure.

NOTE TO COURSE INSTRUCTOR: Fictitious patient cases A to E for all the vital signs modules are located in Module 10, Vital Signs: Blood Pressure.

SECTION 1 • Introduction to Vital Signs Assessment

Vital Signs Overview

1. **Origin of Terminology.** The word *vital* means *necessary to life*. For this

reason, key measurements that provide essential information about a person's health are referred to as *vital signs*.

2. **Definition.** **Vital signs** are a person's temperature, pulse, respiration, and blood pressure.
3. **Fifth Vital Sign.** In addition to these standard vital signs, tobacco use has been suggested as the fifth vital sign since tobacco use is a factor in many medical conditions as well as periodontal disease.
4. **Homeostasis.** The body tries to maintain a state of balance (homeostasis) by making adjustments as necessary to keep the body's vital signs within the range of normal.
5. **Assessment.** Vital signs can be observed, measured, and monitored to provide critical information about a person's state of health.
   a. **Temperature** is the measurement of the degree of heat in a living body.
   b. **Pulse** is the measurement of the heart rate in beats per minute. The pulse is a throbbing caused by the contraction and expansion of an artery as blood passes through it.
   c. **Respiration** is the breathing rate of an individual, stated in breaths per minute.
   d. **Blood pressure** is the force exerted against the walls of the blood vessels as the blood flows through them.

Why Are Vital Signs Important?

- Changes in a vital sign may indicate that something is out of balance in the body and the body is trying to get that balance back.
- Vital signs tell the dental health care provider about changes in a person's body such as illness, infection, stress, or internal body damage.
- For patient safety, vital signs should be measured before the start of any dental treatment.

BOX
8-1

How Are Vital Signs Measured?

- Oral temperature is measured in the mouth with a thermometer placed under the tongue. A glass, digital, or disposable thermometer may be used.
- Pulse rate is measured by touch. In the dental setting, the pulse rate is felt at the wrist.
- Breathing rate is measured by watching the rise and fall of the chest wall.
- Blood pressure is measured using a stethoscope and a blood pressure cuff. Digital blood pressure cuffs are an alternative to the traditional stethoscope and blood pressure cuff; digital measurement may not be as accurate as the traditional method of assessment.

When an Oral Temperature Should Not Be Taken

Do not measure a patient’s temperature orally if one or more of the following contraindications are present:

- The patient has recently had oral surgery.
- The patient is a child under 5 years of age. (A child under 5 years cannot be relied upon to follow a “don’t bite down” request.)
- The patient is confused, heavily sedated, or has some condition that makes it likely that he or she might bite down on a glass thermometer.
- The patient is receiving oxygen by nose.

Understanding Temperature Scales

Three terms—Fahrenheit, Celsius, and centigrade—are encountered when reading or discussing the measurement of body temperature. These terms can be confusing to the novice health care provider. All three terms refer to temperature scales used in both medicine and dentistry.

- The terms **Celsius** and **centigrade** can be used interchangeably in a medical or dental setting, but the term Celsius is the one preferred in most countries.

- The Celsius temperature scale is used in most countries except for the United States. Even in the United States, most of the scientific and engineering communities use the Celsius scale.
- Most Americans remain more accustomed to the **Fahrenheit** temperature scale, which is the scale that U.S. broadcasters use in weather forecasting. In the United States, the Fahrenheit scale is also used for measuring body temperatures in most dental settings. It is common for hospitals in the United States to use the Celsius scale.
- In Canada, due to its close relationship with the United States, kitchen devices, literature, and packaging may include both Fahrenheit and Celsius temperatures.
- In this textbook, temperature measurements are reported in both the Fahrenheit and Celsius scales. Ready Reference 8-2 in this textbook explains how to convert temperatures between the Fahrenheit and Celsius temperature scales.

Equipment Selection

1. **Glass Thermometers.** Glass thermometers provide an inexpensive means for obtaining an accurate oral temperature. Modern glass thermometers are mercury-free and contain most commonly either galinstan or alcohol. The galinstan thermometer is more accurate than digital for the measurement of body temperature in children.[1]
2. **Accuracy of Equipment.** Oral and temporal artery measurements are most accurate.[2–4] Oral temperature is the standard in health care settings.[3] Ear (tympanic) measurements are the least accurate and precise.[2–4]
3. **Automatic Temperature Equipment.** Automatic temperature equipment—also called digital temperature equipment—ranges from the highly calibrated types used in hospital settings to less advanced equipment designed for home use.
   a. All automatic equipment should be verified using a traditional fluid-

filled thermometer.

b. ***An abnormally high or low temperature reading obtained with an automatic device should be verified by retaking the temperature in a few minutes using a traditional fluid-filled thermometer.***

SECTION 2 • **Peak Procedures**

Temperature Assessment with a Glass Thermometer

A common method of taking an oral temperature is with a glass **thermometer**.[5] Reading a glass thermometer accurately requires training, so it is helpful to practice the technique before attempting temperature assessment on a patient (Fig. 8-1).

Procedure 8-1. Reading a Glass Thermometer

Action
1. Hold the stem—the end of the thermometer opposite the bulb—firmly between the thumb and index finger.
2. Hold the thermometer horizontally at eye level with the degree lines visible. Roll the thermometer slowly back and forth between the fingers until the liquid column is visible.
3. The point where the liquid column ends marks the temperature. • The division between the long lines is 1° Fahrenheit (F) or Celsius (C). • Each small line in between the long lines equals 0.2° F or 0.1° C.

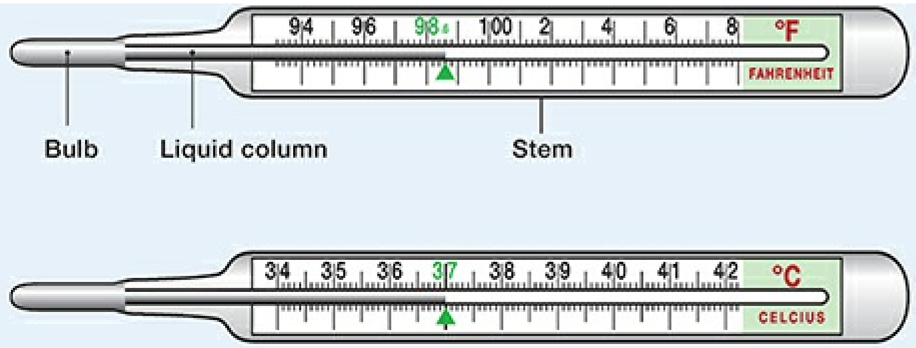


FIGURE 8-1 **Note the location of the liquid column on the scale.** The top thermometer pictured has a Fahrenheit scale. The lower thermometer pictured has a Celsius scale.

Preparing a Glass Thermometer for Use

Liquid-in-glass thermometers can be used to measure body temperature because the liquid inside the thermometer expands when exposed to the warmth of the oral cavity. The liquid column should be at a level below 94° F (34.4° C) at the start of the temperature assessment procedure (Fig. 8-2). Shaking down the liquid column requires a rapid snapping motion with the wrist, so practicing this technique is helpful.

Procedure 8-2. Shaking Down a Glass Thermometer

Action	Rationale
1. Grasp the stem—the end of the thermometer opposite the bulb—firmly between the thumb and index finger.	• Grasping the bulb may warm the liquid and cause it to rise in the thermometer.
2. Shake the thermometer several times using a quick downward snap of the wrist. Glass thermometers break easily, so shake the	• The snapping motion moves liquid back into the bulb below 94° F or 34.4° C.

thermometer away from counters or objects.	
3. Shake the thermometer until the liquid level is below 94° F or 34.4° C.	• If not shaken down, the liquid level could result in an inaccurate temperature reading. For example, the liquid level is at 100° F; however, the patient's temperature is 98°. Forgetting to shake down the liquid level results in an incorrect temperature finding of 100° F.

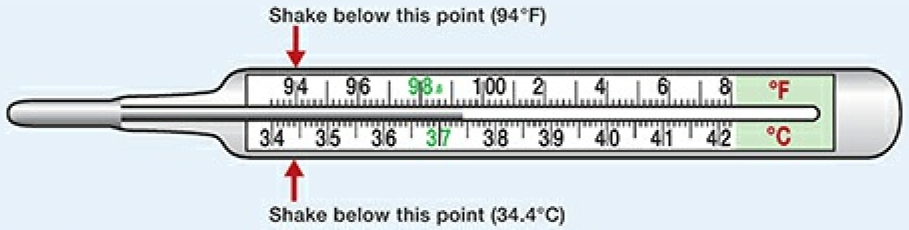

Shake below this point (94°F)
94
96
98.6
100
2
4
6
8
°F
34
35
36
37
38
39
40
41
42
°C
Shake below this point (34.4°C)

FIGURE 8-2 **Shake down the thermometer.** Shake the level of the liquid column below 94° F or 34.4° C.

Positioning the Thermometer in the Mouth

To obtain an accurate reading, it is important to locate the thermometer or temperature probe correctly in the oral cavity.

- Ask the patient to open his or her mouth. If the patient's tongue is not raised, give the patient additional instructions to lift the tongue.
- Place the bulb of the thermometer or temperature probe on a heat pocket. The mouth has two **heat pockets** located on either side of the floor of the mouth between the base of the tongue and the molar teeth.
- Place the thermometer so that the bulb rests in one of the heat pockets with the stem on the anterior teeth on the opposite side of the mouth.

Crossing the midline of the mouth helps to keep the thermometer in place.

- Figure 8-3 illustrates correct placement of the thermometer in the mouth.

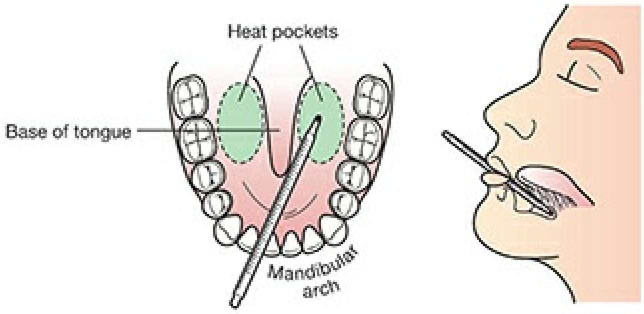


FIGURE 8-3 **Positioning an oral thermometer.** Place the bulb of the thermometer on a heat pocket, near the mandibular molar teeth on one side of the mouth.

Procedure for Temperature Taking

Procedure 8-3. Assessing Oral Temperature with a Glass Thermometer

EQUIPMENT

Mercury-free glass fever thermometer, stored at room temperature
Tissue
Disposable thermometer sheath
Clock or watch with a second hand
Pen (or computer keyboard)

Action	Rationale
1. Confirm that the patient has not had alcohol, tobacco, caffeine, or performed vigorous exercise within 30 minutes of the vital signs assessment.	• The temperature of the oral mucosa affects the accuracy of the thermometer reading. • Alcohol, caffeine, or vigorous exercise can alter pulse and respiration; these vital signs usually are

	assessed in conjunction with temperature.
2. Wash hands.	• Reduces likelihood of transmitting microorganisms
3. Explain the procedure to the patient (Fig. 8-4).	• Informs the patient of the clinician’s intent • Reduces patient apprehension and encourages patient cooperation
FIGURE 8-4 Explain the procedure to the patient. An important step in the temperature taking procedure is informing the patient of your intent.	
4. Shake the liquid level below 94° F (34.4° C).	• If not shaken down, the liquid level could result in an inaccurate temperature reading.
5. Place a disposable sheath on the thermometer (Fig. 8-5).	• Reduces likelihood of cross-contamination

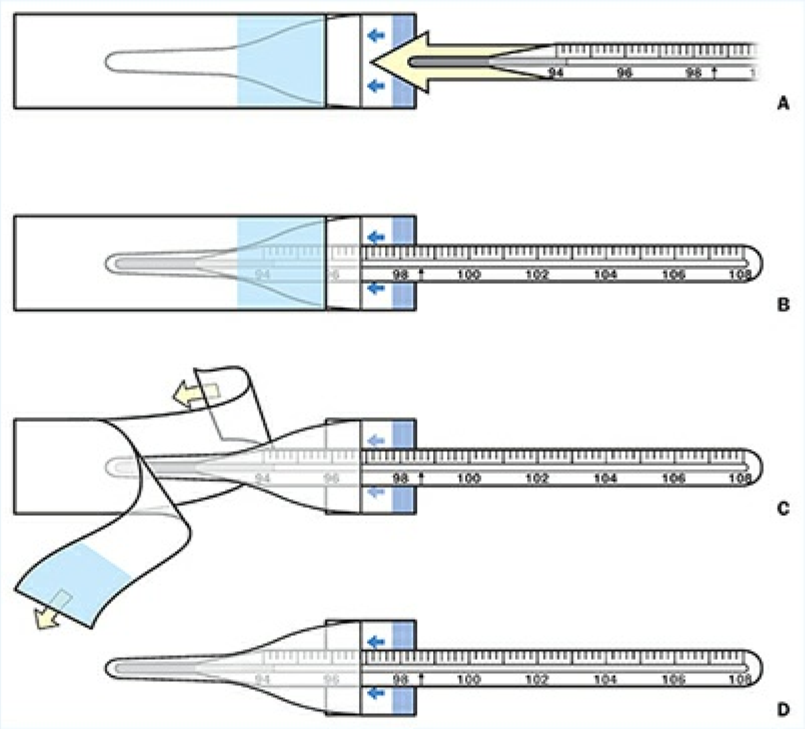


FIGURE 8-5 **Cover thermometer with a sheath. A.** Gently insert the thermometer into the sheath with the bulb toward the closed end of the sheath. **B.** Tear paper covering at the dotted line. **C.** Hold the small paper section; pull on the larger section to remove it. **D.** The thermometer is now ready to for use.

6. Place the thermometer bulb under the patient’s tongue in a heat pocket—on the right or left side—toward the back of the mouth (Fig. 8-6).
   - Ask the patient to hold the thermometer in place.
   - The patient should breathe through the nose, keeping the lips closed.
   - Caution the patient against biting down on the thermometer.

- The heat from the lingual arteries under the tongue causes the liquid column to rise. Positioning the bulb in this manner places it in close contact with blood vessels lying near to the surface.
- Closing the lips helps to keep the bulb in position.
- Glass thermometers are easily broken.

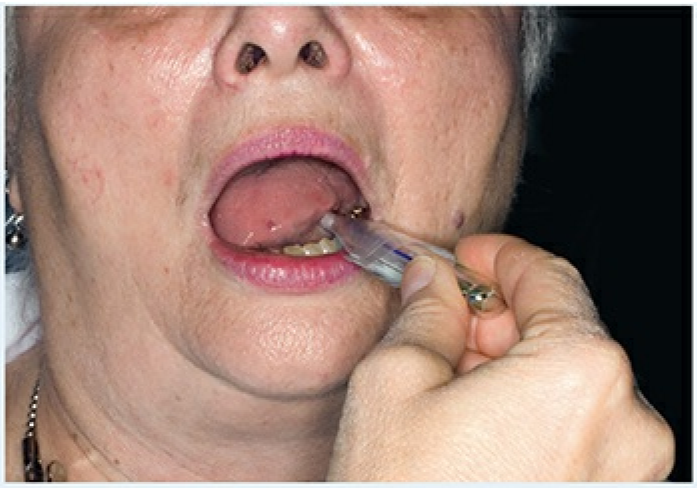


FIGURE 8-6 **Position the bulb under the tongue.** Place the bulb to one side in a heat pocket toward the back of the mouth.

7. Leave the thermometer in place according to clinic protocol, usually 3–5 minutes.	• Three full minutes is the minimum amount of time required to obtain an accurate oral temperature using a standard glass thermometer.
8. Take the thermometer from the patient's mouth. Remove the thermometer sheath and discard it in a receptacle for contaminated items.	• The liquid column is harder to see with the sheath in place.
9. Read the temperature at eye level to the nearest tenth (Fig. 8-7).	• The liquid column may be between the calibration lines.

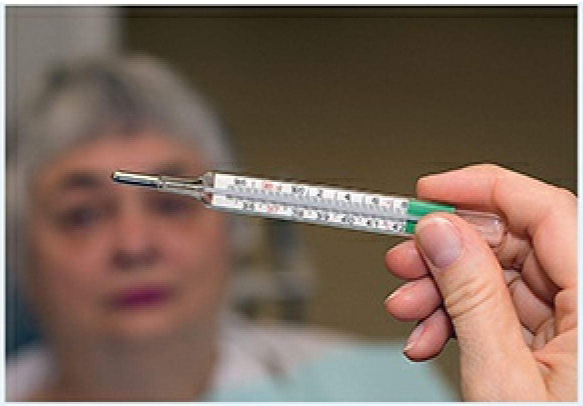


FIGURE 8-7 **Read the temperature.** Hold the thermometer in a horizontal orientation and turn it slightly until the liquid column is visible. Note the location of the liquid column on the scale.

10. After reading, place the thermometer on a barrier in a safe location. Wash and dry your hands. Record today's date and time and the temperature reading in the chart or computer record. Discuss findings with the patient.	• Deters transmission of microorganisms to the paper chart or computer keyboard[6] • Recording the reading promptly facilitates accurate documentation.
11. Upon completion of the vital signs assessment, report all abnormal findings to a clinical instructor or supervising clinician.	• If the temperature reading is elevated, elective dental treatment should be postponed and the patient referred to a primary care physician for evaluation.
12. Wash the thermometer in lukewarm, soapy water. Rinse in cold water and dry.Disinfect the thermometer, dry, and place in a storage container.	• Thermometer sheaths can easily tear allowing oral microorganisms to contaminate the thermometer. • Hot water can cause the liquid column to expand,

potentially breaking the thermometer.

- Proper containers prevent contamination and protect the delicate thermometer.

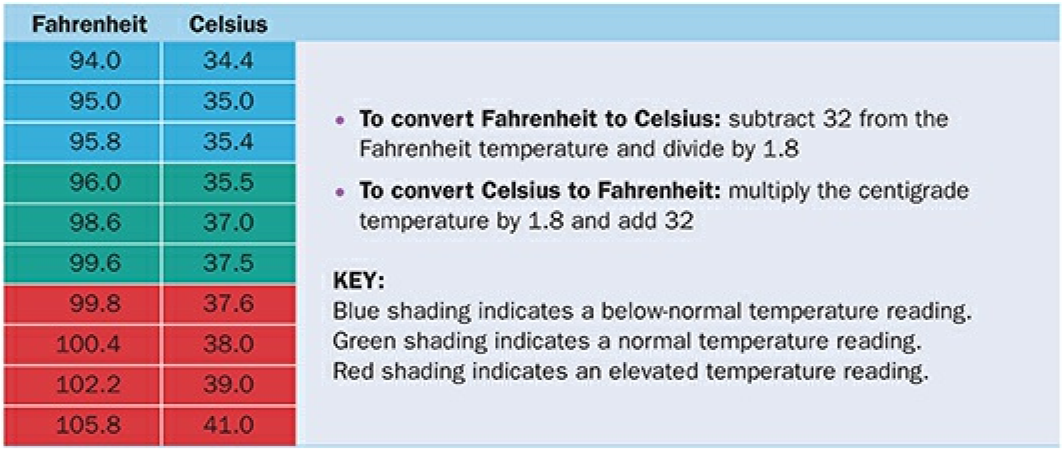
SECTION 3 • Ready References

NOTE: The Ready References in this book may be removed from the book by tearing along the perforated lines on each page. Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

Ready Reference 8-1. Body Temperature Ranges

NORMAL BODY TEMPERATURE
• The normal adult oral temperature ranges from 96° to 99.6° F (35.5° to 37.5° C).
• The average normal oral temperature is 98.6° F (37° C); however, "normal" varies from person to person.
ELEVATION IN BODY TEMPERATURE
• Fever (pyrexia) is a reading *over* 99.5° F or 37.5° C.

Ready Reference 8-2. Back and Forth—From Fahrenheit to Celsius



Fahrenheit	Celsius
94.0	34.4
95.0	35.0
95.8	35.4
96.0	35.5
98.6	37.0
99.6	37.5
99.8	37.6
100.4	38.0
102.2	39.0
105.8	41.0

- **To convert Fahrenheit to Celsius:** subtract 32 from the Fahrenheit temperature and divide by 1.8
- **To convert Celsius to Fahrenheit:** multiply the centigrade temperature by 1.8 and add 32

KEY:
Blue shading indicates a below-normal temperature reading.
Green shading indicates a normal temperature reading.
Red shading indicates an elevated temperature reading.

Ready Reference 8-3. Variables that Commonly Affect Temperature

- Time of day—temperature varies throughout the day, usually being lowest in the early morning and rising by 0.5° to 1.0° F (0.3° to 0.6° C) in the early evening.
- Exercise—temperature may rise by 1.0° F (0.6° C) or more after strenuous physical exertion on a hot day.
- Age—the average normal oral temperature for persons over 70 years of age is 96.8° F (36.0° C).
- Environment—a cold or hot environment can alter temperature.
- Stress—a stressful situation can cause body temperature to rise.
- Hormones—a woman’s body temperature typically varies by 1.0° F (0.6° C) or more throughout her menstrual cycle.
- Hot liquids—increase oral temperature for approximately 15 minutes[7]

- Cold liquids—decrease oral temperature for approximately 15 minutes[7]
- Smoking—increases oral temperature for approximately 30 minutes[7]
- Tachypnea (rapid breathing)—decreases oral temperature[8]
- Infection or inflammation—increases body temperature

Ready Reference 8-4. Impact of Temperature Readings on Dental Treatment

1. An elevated temperature reading should be reassessed to determine if the initial reading is accurate. Before taking a second temperature reading, reconfirm that the patient has not smoked or consumed a hot beverage for at least 30 minutes. An elevated temperature could also result from spending time in a hot environment, such as driving for an hour in a vehicle with no air conditioning on a hot day.
2. Temperatures in excess of 101° F (38.3° C) usually indicate the presence of an active disease process.
3. In most cases, dental treatment is contraindicated for a patient with an elevated temperature. The patient should be referred to his or her primary care physician for evaluation.
4. If an elevated temperature is due to a dental infection, immediate dental treatment and antibiotic therapy may be indicated.
5. If the temperature is 104° F (40° C) or higher, a consultation

with the patient’s primary care physician is indicated.

6. A temperature of 105.8° F (41° C) constitutes a medical emergency. Contact emergency medical services (EMS) to request transport to the hospital.

SECTION 4 • The Human Element

Through the Eyes of a Student

MAKING ASSUMPTIONS ABOUT A PATIENT’S VALUES

As a student, I learned an important lesson about people at Mrs. B.’s initial appointment. Mrs. B. was 65 years old, and when she sat down in my chair, she started telling me about her career as a model. She had been a catalog model for a large department store in Toronto for over 40 years. Mrs. B. was dressed meticulously in a three-piece suit. Her shoes were polished and perfectly matched her suit. Her makeup and hair was perfect.

Then I began to ask her questions. When was her last dental visit? What was done at that visit? The patient answered my questions, and it became obvious that she had neglected her dental health. I took her vital signs. When she opened her mouth for the thermometer, I saw red swollen gingiva and heavy calculus deposits on her lower anterior teeth.

I talked to my instructor in the supply room where the patient would not be able to hear me. I told my instructor how surprised I was that Mrs. B. was neglecting her dental health when “she looked so PERFECT on the outside.” My instructor helped me to understand that I should not make assumptions about a patient’s values. And even more important, not to expect a patient to have the same health values that I have. My instructor helped me to see that my next task was to talk to my patient without being judgmental. I needed to learn what her values are at the present time. Of course, most important, I learned that I must see each patient as a unique individual with his or her own needs and values.

Anonymous graduate,
George Brown College of Applied Arts and Technology
Toronto, Canada

English-to-Spanish Phrase List

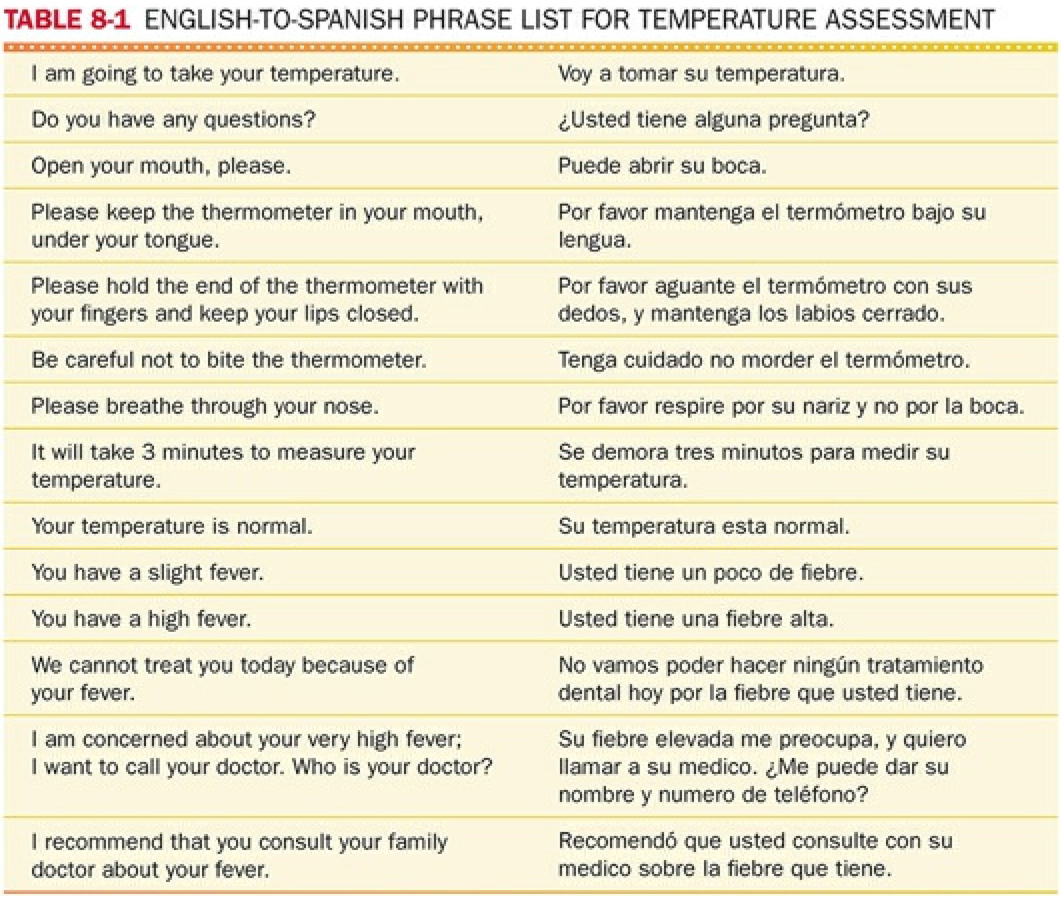


TABLE 8-1 ENGLISH-TO-SPANISH PHRASE LIST FOR TEMPERATURE ASSESSMENT

I am going to take your temperature.	Voy a tomar su temperatura.
Do you have any questions?	¿Usted tiene alguna pregunta?
Open your mouth, please.	Puede abrir su boca.
Please keep the thermometer in your mouth, under your tongue.	Por favor mantenga el termómetro bajo su lengua.
Please hold the end of the thermometer with your fingers and keep your lips closed.	Por favor aguante el termómetro con sus dedos, y mantenga los labios cerrado.
Be careful not to bite the thermometer.	Tenga cuidado no morder el termómetro.
Please breathe through your nose.	Por favor respire por su nariz y no por la boca.
It will take 3 minutes to measure your temperature.	Se demora tres minutos para medir su temperatura.
Your temperature is normal.	Su temperatura esta normal.
You have a slight fever.	Usted tiene un poco de fiebre.
You have a high fever.	Usted tiene una fiebre alta.
We cannot treat you today because of your fever.	No vamos poder hacer ningún tratamiento dental hoy por la fiebre que usted tiene.
I am concerned about your very high fever; I want to call your doctor. Who is your doctor?	Su fiebre elevada me preocupa, y quiero llamar a su medico. ¿Me puede dar su nombre y numero de teléfono?
I recommend that you consult your family doctor about your fever.	Recomendó que usted consulte con su medico sobre la fiebre que tiene.

NOTE: The **Practical Focus—Fictitious Patient Cases** section for all of the vital signs modules is located in Module 10, Vital Signs: Blood Pressure.

SECTION 5 • **Skill Check**

Technique Skill Checklist: Oral Temperature Procedure

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Seats the patient in a comfortable upright position. Confirms that the patient has not had a hot or cold beverage or smoked within the previous 30 minutes.		
Washes hands.		
Shakes down the thermometer so that the liquid level is below 94° F or 34.4° C.		
Covers the thermometer with a disposable sheath.		
Asks the patient to open the mouth. Positions the bulb under the tongue on one side toward the back of the mouth.		
Maintains the thermometer in the patient's mouth for 3 to 5 minutes.		
Removes the thermometer from the patient's mouth. Removes and discards the sheath in an appropriate receptacle.		
Holds the thermometer in a horizontal position. Reads the position of the liquid column to the nearest tenth.		
Places the thermometer on a barrier in a safe location. Washes and dries hands. Records today's date, time, and the oral temperature reading in the patient chart or computer record.		
Upon completion of the vital signs assessment, washes the thermometer in lukewarm, soapy water.		

Rinses it in cold water and dries. Disinfects and dries thermometer; places it in an appropriate container.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the **"S"**s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Role-Play for Temperature

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains what is to be done in terminology that is easily understood by the patient.		
Reports the temperature reading to the patient and		

explains if the reading is normal or outside the normal range and the significance of the finding.		
Encourages patient questions before and after the temperature assessment procedure.		
Answers the patient’s questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the **“S”**s and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios for the modules in this textbook can be found at http://thepoint.lww.com/GehrigPAT4e.

References

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5. Bickley LS, Szilagyi PG, Bates B. *Bates' Guide to Physical Examination and History Taking*. 11th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2012.
6. Hübner NO, Hübner C, Kramer A, Assadian O. Survival of bacterial pathogens on paper and bacterial retrieval from paper to hands: preliminary results. *Am J Nurs*. 2011;111(12):30–34.
7. Terndrup TE, Allegra JR, Kealy JA. A comparison of oral, rectal, and tympanic membrane-derived temperature changes after ingestion of liquids and smoking. *Am J Emerg Med*. 1989;7(2):150–154.
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MODULE

9

VITAL SIGNS: PULSE AND RESPIRATION

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This is the second of three modules covering the assessment of vital signs. Vital signs are key measurements that provide essential information about a person’s state of health. Vital signs include a person’s temperature, pulse, respiration, and blood pressure.

This module describes assessment of pulse and respiratory rates, including:

- The anatomy of the brachial and radial arteries
- Palpating the radial pulse point
- Determining the pulse rate
- Measuring respiratory rate

MODULE OUTLINE

SECTION 1	**Peak Procedure for Pulse Assessment** Pulse Rate Pulse Points

Assessing Pulse Rate
    Procedure 9-1. Practice Locating the Radial Artery
    Procedure 9-2. Determining Pulse Rate

SECTION 2 **Peak Procedure for Assessing Respiration**
Respiratory Rate
Control of Respiration
Assessing Respiration
    Procedure 9-3. Count Your Own Respiratory Rate
    Procedure 9-4. Assessing the Respiratory Rate

SECTION 3 **Ready References**
Ready Reference 9-1. Normal Pulse Rates per Minute at Various Ages
Ready Reference 9-2. Factors Affecting Pulse Rate
Ready Reference 9-3. Pulse Patterns
Ready Reference 9-4. Pulse Amplitude Assessment
Ready Reference 9-5. Pulse Pressure
Ready Reference 9-6. Normal Respiratory Rates per Minute at Various Ages
Ready Reference 9-7. Factors Affecting Respiration Rate
Ready Reference 9-8. Evaluation of Respiration
Ready Reference 9-9. Types of Respiration

SECTION 4 **The Human Element**
Through the Eyes of a Student
Through the Eyes of a Patient
English-to-Spanish Phrase List

SECTION 5 **Skill Check**

KEY TERMS

Pulse rate • Pulse • Pulse points • Brachial artery • Radial artery • Respiratory rate • Voluntary control

OBJECTIVES

- Define the term *pulse* and describe factors that may affect a person's pulse.
- Describe the different qualities of the pulse that a clinician should be aware of when taking a pulse.
- Demonstrate the correct technique for locating and assessing the radial pulse.
- Explain why the patient should not be told beforehand that the clinician is assessing his or her respiratory rate.
- Describe the factors that may affect a person's respirations.
- Explain the terms used to describe a person's respirations.
- Demonstrate the correct technique for assessing respiration.
- Provide information to the patient about the pulse and respiration assessment procedure and the readings that you obtain.
- Recognize findings that have implications in planning dental treatment.
- Provide appropriate referral to a physician when findings indicate the need for further evaluation.
- Compare findings in the fictitious patient cases A to E (Module 10) to the normal ranges for pulse and respiration.
- Demonstrate knowledge of the pulse and respiration assessment by applying concepts from this module to the fictitious patient cases A to E in Module 10, Vital Signs: Blood Pressure.

NOTE TO COURSE INSTRUCTOR: Fictitious patient cases A to E for the vital signs modules are located in Module 10, Vital Signs: Blood Pressure.

SECTION 1 • Peak Procedure for Pulse Assessment

Pulse Rate

The **pulse rate** is an indication of an individual’s heart rate. Pulse rate is measured by counting the number of rhythmic beats that can be felt over an artery in 1 minute. ***The normal adult heart rate is between 60 and 100 beats per minute.*** Rapid or slow pulse rates are not necessarily abnormal. Athletes tend to have slow pulses at rest. Increased pulse rates may be a normal response to stress, exercise, or pain. Ready Reference 9-1 outlines normal pulse rates at various ages, and Ready Reference 9-2 shows some factors that can affect the pulse rate. Ready References 9-3, 9-4, and 9-5 provide details of pulse patterns, pulse amplitude, and pulse pressure.

Pulse Points

As the heart beats and forces blood through the body, a throbbing sensation—the **pulse**—can be felt by putting the fingers over one of the arteries that are close to the surface of the skin. **Pulse points** are the sites on the surface of the body where rhythmic beats of an artery can be easily felt.[1] In the dental setting, the most commonly used pulse point is over the radial artery in the wrist. Before practicing the techniques for assessing the pulse rate and blood pressure, it is helpful to locate and palpate the brachial and radial pulse points on the underside of the arm (Fig. 9-1).

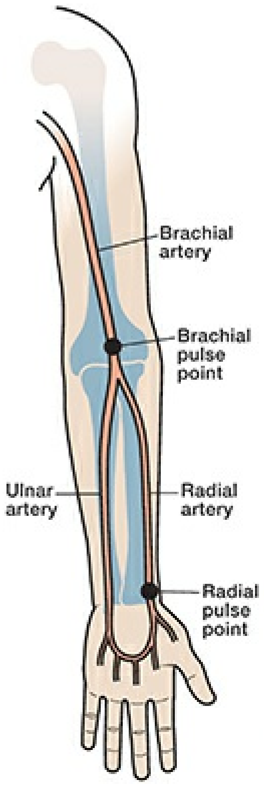


FIGURE 9-1 **The anatomy of the brachial and radial arteries of the arm.**

- The **brachial artery** is the main artery of the upper arm; it divides into the radial and ulnar arteries at the elbow. The brachial artery is used when taking blood pressure.
- The **radial artery** is a branch of the brachial artery beginning below the elbow and extending down the forearm on the **thumb side** of the wrist and into the hand.

Assessing Pulse Rate

Procedure 9-1. Practice Locating the Radial Artery

Action	Rationale
1. Sit or stand facing the patient. Position the patient's arm in a palm-up position with his or her arm resting comfortably on a countertop or chair armrest.	• This position makes it easy to locate the radial pulse point.
2. Use the finger pads of your index, middle, and ring fingers to locate the	• The sensitive finger pads can feel the pulsation of the artery.

radial artery on the wrist at the base of the thumb (Fig. 9-2). Feel the throbbing pulse by pressing lightly in the shallow groove at the base of the thumb.	• The thumb has a pulse of its own that might be confused with the patient’s pulse. • Too much pressure will make it difficult to detect the pulsations under your fingers.

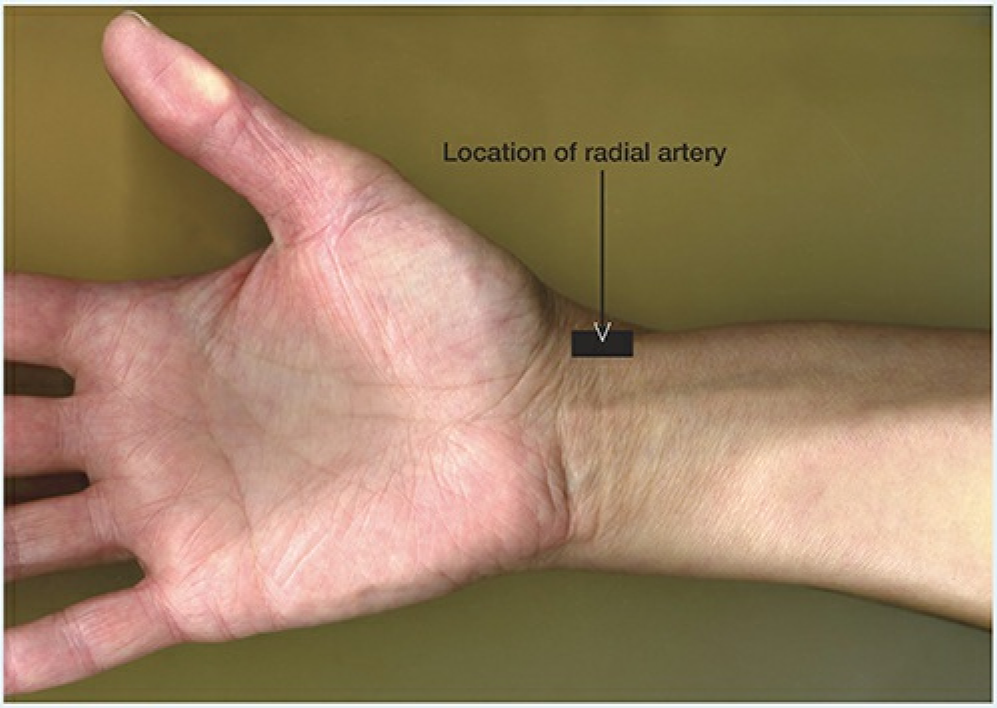


FIGURE 9-2 Location of the radial artery on the thumb side of the wrist.

Procedure 9-2. Determining Pulse Rate

EQUIPMENT

Clock or watch with second hand or digital readout

Action	Rationale
1. It takes time to obtain an	• Assessing the other vital

accurate oral temperature using a glass thermometer. For this reason, pulse, respiration, and blood pressure are assessed during the time needed to determine the oral temperature.	signs while the thermometer registers the patient's temperature makes efficient use of appointment time.
2. Explain the pulse assessment procedure to the patient.	• Informs the patient of the clinician's intent • Reduces patient apprehension and encourages cooperation
3. The patient's arm should be resting comfortably on the chair armrest or other support, such as a countertop (Fig. 9-3). **FIGURE 9-3** **Arm position.** Position the patient's arm in a comfortable position.	• There is no reason for the patient's arm to be in an awkward position.

4. Sit or stand facing the patient. Grasp the patient's wrist with the fingers of your free (non–watch-bearing) hand.	- This position is comfortable for the patient and convenient for the clinician.
5. Using the finger pads of your first three fingers, locate the radial pulse point on the thumb side of the patient's wrist (Fig. 9-4). Apply only enough pressure so that the radial artery can be distinctly felt.	- The thumb is never used to assess the pulse. The thumb has a pulse; this pulse could be confused with the patient's pulse. - Moderate pressure facilitates palpation of the beats. The pulse is imperceptible with too little pressure, whereas too much pressure obscures the pulse.

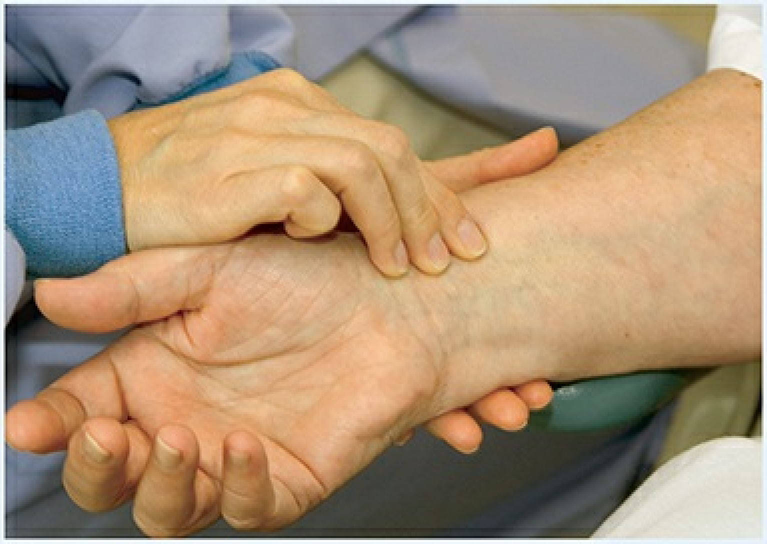


FIGURE 9-4 **Locate the radial artery.** Place the fingers along the radial artery.

6. Look at a watch or clock and wait until the second	- Starting with the second hand at the "12" or "6"

hand gets to the “12” or “6.” When the second hand reaches the “12” or “6,” begin counting the pulse beats. Count for a minimum of 30 seconds. Multiply this number by 2 to calculate the pulse rate for 1 minute. If the pulse is irregular in any way or if your patient has a pacemaker, count the beats for 1 minute.	makes it easy to determine when 30 seconds has passed. • Sufficient time is needed to assess the rate and characteristics of the pulse. • With an irregular pulse, the beats counted in a 30-second period may not represent the overall rate. The longer you measure, the more these variations are averaged out.
7. Make a mental note of the pulse rate and without letting go of the patient’s wrist, begin to observe the patient’s breathing. Assessment of the respiration should begin immediately after taking the patient’s pulse.	• The patient may alter the rate of respirations if aware that breathing is being monitored.

SECTION 2 • Peak Procedure for Assessing Respiration

Respiratory Rate

Respiration is the process that brings oxygen into the body and removes carbon dioxide. With each normal breath, a person inhales 500 ml of air and exhales the same amount. Ready References 9-8 and 9-9 outline terms used when evaluating the respiratory rate and types of respiration.

- The **respiratory rate** is determined by counting the number of respirations in 1 minute—one inhalation and one exhalation = one respiration.
- ***The normal adult respiratory rate is between 14 and 20 breaths per minute.*** Elderly patients typically have higher resting respiratory rates; it is not unusual for an elderly patient to have a resting respiratory rate of 20 to 22 minutes.[2] Ready Reference 9-6 outlines normal respiration rates at various ages.
- Excitement, exercise, pain, and fever increase respiratory rate. Any patient who is working hard at breathing is in trouble.
- Rapid respiration is characteristic of lung diseases such as emphysema. Heart disease also increases the rate of respiration, as do some drugs. Ready Reference 9-7 provides a list of factors that can affect respiration rate.

Control of Respiration

Respiration is mostly unconscious; people breathe without thinking about it. Unlike pulse rate, however, respiration is easily brought under voluntary control. Breath-holding, panting, use of expiratory air to speak, singing, or sighing at will are all examples of this **voluntary control**. Just thinking about respiration causes most individuals to alter their breathing rate. Telling someone to “breathe normally” almost certainly will cause that person to begin to breathe more slowly or rapidly.[3,4] For this reason, the respiratory rate should be measured immediately after taking a pulse. ***Counting the respirations while appearing to count the pulse helps to keep the patient from becoming conscious of his or her breathing and possibly altering the usual rate.***

Assessing Respiration

Procedure 9-3. Count Your Own Respiratory Rate

Action	Rationale
1. Place a hand on your own chest and feel your chest rise. One breath in and out is counted as one respiration.	- One inspiration and expiration comprises one respiration.
2. Count the number of times your chest rises for 30 seconds and multiply by 2 to obtain your respiratory rate.	- Sufficient time is needed to observe the breathing rate and characteristics.
3. Note if your breathing is irregular. Listen for unusual breath sounds. Note how much effort is needed for you to breathe. Normal breathing should be quiet and effortless.	- Abnormal respirations may be irregular, rapid, labored, weak, or noisy.

Procedure 9-4 Assessing the Respiratory Rate

EQUIPMENT
Clock or watch with second hand or digital readout Pen (or computer keyboard)

Action	Rationale
1. This assessment is best	- Respiratory rate is under

done immediately after taking the patient’s pulse. Do not announce that you are measuring the respirations.	voluntary control. If the patient knows that you are counting the breaths, he or she may change breathing pattern.
2. After determining the pulse rate, keep your fingers resting on the patient’s wrist and begin to assess the respiration (Fig. 9-5). Observe respirations inconspicuously; use peripheral vision to observe the chest rise and fall. Young children use their diaphragms when breathing; the respiratory rate of a young child is measured by observing the abdomen rise and fall.	• The patient will assume that you are still counting the pulse rate. • Breathing rate can be controlled voluntarily.
3. Look at a watch or clock and wait until the second hand gets to the “12” or “6.” When the second hand reaches the “12” or “6,” use your peripheral vision to watch the chest and begin counting each rise of the chest as one breath.	• Sufficient time is needed to observe the breathing rate and characteristics.

Count the number of breaths for a minimum of 30 seconds. In adults with irregular rates, count for 1 full minute.	
 FIGURE 9-5 **Begin assessment of respiration.** With your fingers still in place after counting the pulse rate, observe the patient's respirations.	
4. Pay attention to the depth and rhythm of the patient's respirations by watching the chest rise and fall.[4] • Normal breathing is easy, quiet, and regular. • Abnormal respirations may be irregular, rapid, labored, weak, or noisy. • If breathing is abnormal in any way, count the respirations for at least 1 full minute.	• Increased time allows detection of abnormal characteristics.
5. Record the pulse and	• Recording findings

respiratory rates in the patient chart or computer record. Discuss the findings with the patient. Upon completion of the vital signs assessment, report all abnormal findings to a clinical instructor or supervising clinician.	immediately in the chart facilitates accurate documentation and reporting.[5] • Elective dental treatment may be postponed due to abnormal findings. For example, a patient with labored breathing should be referred to his or her physician for evaluation.

SECTION 3 • **Ready References**

NOTE: The Ready References in this book may be removed from the book by tearing along the perforated lines on each page. Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

Ready Reference 9-1. Normal Pulse Rates per Minute at Various Ages

Age	Approximate Range	Approximate Average
2–6 years	75–120	100
6–12 years	75–110	95
Adolescent to adult	60–100	80

Ready Reference 9-2. Factors Affecting Pulse Rate

- ✓ Age
- ✓ Medications
- ✓ Stress
- ✓ Exercise

Ready Reference 9-3. Pulse Patterns

Regular—evenly spaced beats; may vary slightly with respiration

Regularly irregular—regular pattern overall with ``skipped" beats

Irregularly irregular—no real pattern, difficult to measure accurately

Normal amplitude—full, strong pulse that is easily felt

Abnormal amplitude—weak pulse that is not easily felt

Ready Reference 9-4. Pulse Amplitude Assessment

To assess the amplitude of a pulse, use a numerical scale to characterize the strength.

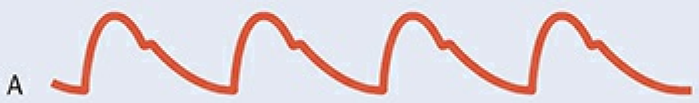
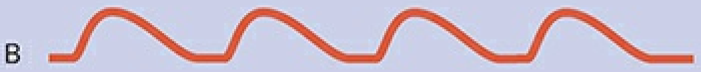
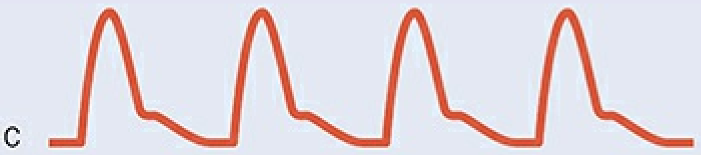
0—absent pulse, not palpable

+1—weak or thready pulse, hard to feel; the beat easily eliminated by slight finger pressure

+2—normal pulse, easily felt; the beat is eliminated by forceful finger pressure

+3—bounding, forceful pulse that is readily felt; the beat not easily eliminated by pressure from the fingers

Ready Reference 9-5. Pulse Pressure

Normal The pulse pressure is smooth (Fig. 9-6A–C).	
Weak The pulse pressure is diminished; the pulse feels weak and small.	
Bounding The pulse pressure is increased and the pulse feels strong and bouncing.	 FIGURE 9-6 **A.** Normal pulse. **B.** Weak pulse. **C.** Bounding pulse.

Ready Reference 9-6. Normal Respiratory Rates per Minute at Various Ages

Age	Approximate Range
Preschooler (3–6 years)	22–34
School age (6–12 years)	18–30
Adolescent (12–18 years)	12–16
Adult	14–20

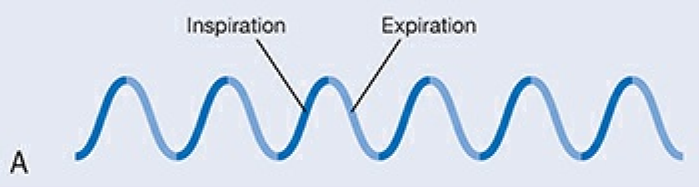
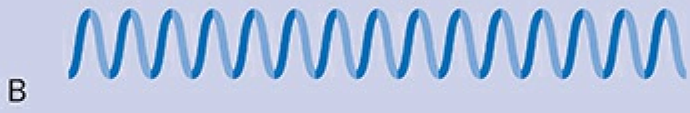
Ready Reference 9-7. Factors Affecting Respiration Rate

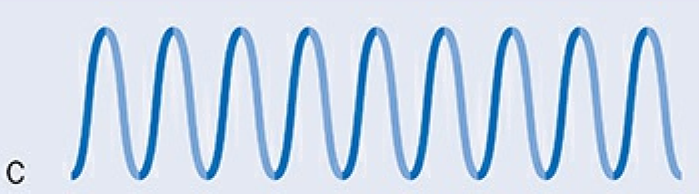
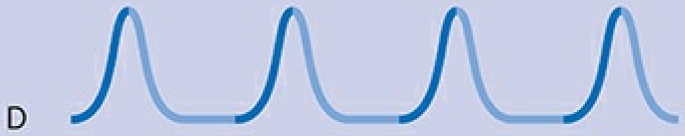
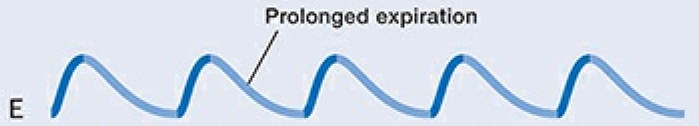
✓ Age	✓ Altitude
✓ Medications	✓ Gender
✓ Body position	✓ Stress
✓ Exercise	✓ Fever

Ready Reference 9-8. Evaluation of Respiration

Rhythm—regularity of respirations
Ease—easy, labored, or painful?
Depth—deep or shallow?
Noise—slight, wheezing, gurgling?
Abnormal odor—fruity odor, alcohol on breath?

Ready Reference 9-9. Types of Respiration

Normal The respiratory rate is about 14–20 per minute in adults (Fig. 9-7A–E).	
Rapid shallow breathing (*Tachypnea*) The respiratory rate is >20 per minute; causes include restrictive	

lung disease and inflammation of the lungs.	
Rapid deep breathing (*Hyperpnea, hyperventilation*) Breathing with increased rate and depth; causes include exercise, anxiety, and metabolic acidosis.	
Slow breathing (*Bradypnea*) Breathing with decreased rate and depth; one common cause is diabetic coma.	
Obstructive breathing The expiration is prolonged because of narrowed airways; causes include asthma, chronic bronchitis, and	 **FIGURE 9-7 Respiration types. A.** Normal. **B.** Rapid, shallow. **C.** Rapid, deep. **D.** Slow. **E.** Obstructed.

chronic obstructive pulmonary disease (COPD).	

SECTION 4 • The Human Element

Through the Eyes of a Student

A MEDICAL EMERGENCY

It was my first appointment with Mr. J. As I prepared for his appointment, I noted that he was 70 years of age and has a history of congestive heart failure. When I assessed Mr. J.'s respiration, he seemed breathless and to be having some difficulty in breathing. He seemed to be tired even though this was a morning appointment. I reclined the dental chair so that he could rest while I took his blood pressure. Once he was in a supine position, Mr. J. seemed to have even more difficulty breathing and he asked to sit upright again.

I wanted to get on with the appointment because I was worried about completing all my clinic requirements. Something in the back of my mind, however, kept telling me that I should be concerned about Mr. J.'s labored breathing. I decided to report my observations to my clinic instructor.

My instructor called an ambulance, and the paramedics transported Mr. J. to the hospital. Later, I received a telephone call from Mrs. J. telling me that her husband was hospitalized and saying that my actions might have saved his life. I learned that day that even seemly small things like a patient's respiratory rate could be significant. Now, I take the vital signs assessment procedures more seriously and never rush through them.

George, student,
Tallahassee Community College

Through the Eyes of a Patient

INCLUDING THE PATIENT DURING ASSESSMENT AND CARE PLANNING

Patient-centered care is a fundamental concept in the provision of excellent dental care. Engaging with each patient as you complete the various assessment procedures can help to improve care outcomes.

As you gather information during the patient assessment process, you increasingly assemble information about the patient that you will use to individualize the treatment care plan recommendations.

As you plan care for your patient, consider this method for patient-centered care based on *respect for the patient's preferences*:

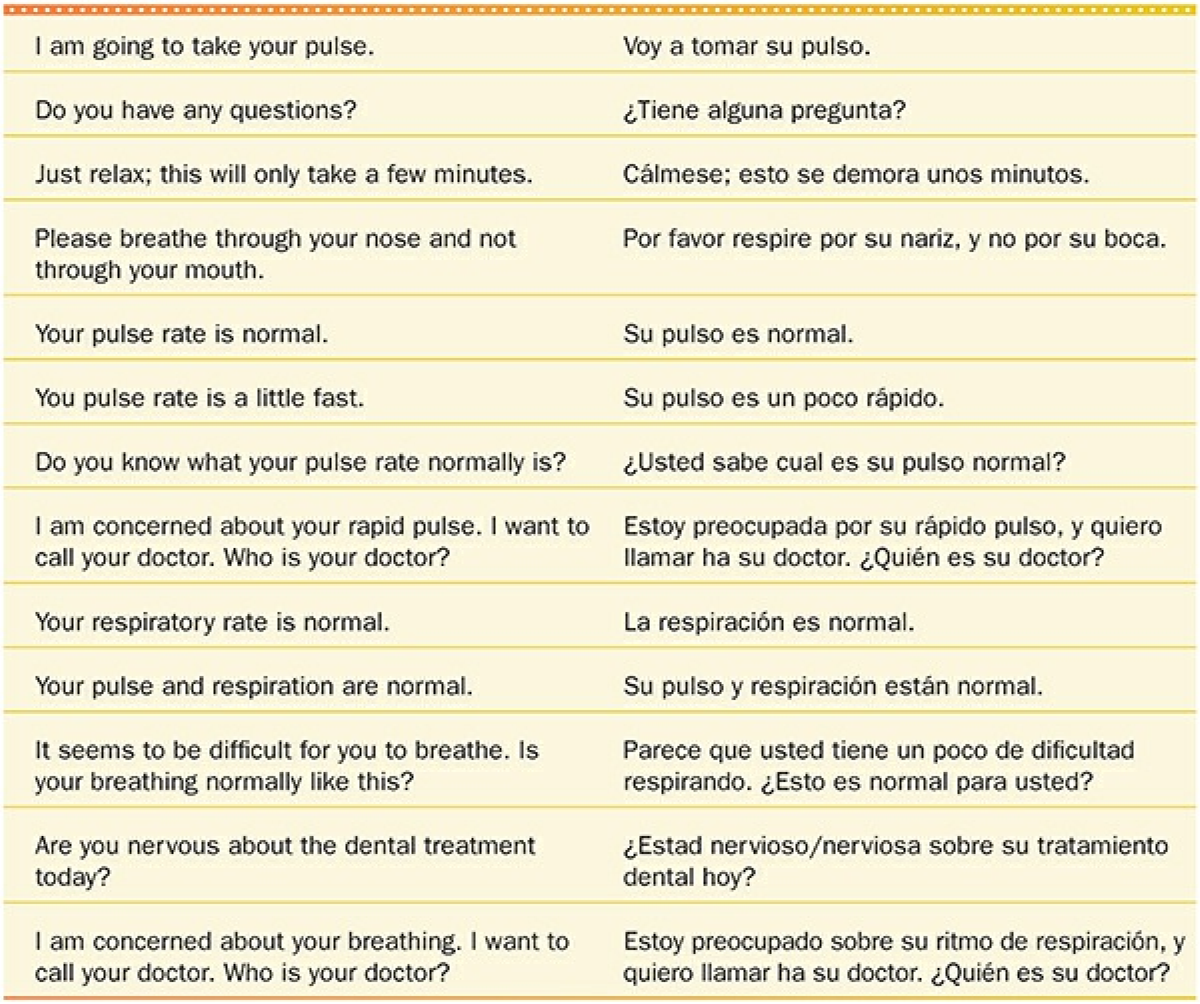
- Clear your mind of your own concerns and focus on the patient as a unique individual with values and health beliefs.
- What is the essential information you need to know to plan effective care for a patient? Hint: In addition to clinical findings gathered during the patient assessment process, what information will be helpful to ensure that the patient is included in the care planning process?

Applying evidence-based standards helps improve the quality of care.

- Discuss instances when it is appropriate to make exceptions to the standard of care in order to accommodate a patient's wishes.
- Discuss instances when it would not be appropriate.

English-to-Spanish Phrase List

TABLE 9-1 ENGLISH-TO-SPANISH PHRASE LIST FOR PULSE AND RESPIRATION ASSESSMENT



I am going to take your pulse.	Voy a tomar su pulso.
Do you have any questions?	¿Tiene alguna pregunta?
Just relax; this will only take a few minutes.	Cálmese; esto se demora unos minutos.
Please breathe through your nose and not through your mouth.	Por favor respire por su nariz, y no por su boca.
Your pulse rate is normal.	Su pulso es normal.
You pulse rate is a little fast.	Su pulso es un poco rápido.
Do you know what your pulse rate normally is?	¿Usted sabe cual es su pulso normal?
I am concerned about your rapid pulse. I want to call your doctor. Who is your doctor?	Estoy preocupada por su rápido pulso, y quiero llamar ha su doctor. ¿Quién es su doctor?
Your respiratory rate is normal.	La respiración es normal.
Your pulse and respiration are normal.	Su pulso y respiración están normal.
It seems to be difficult for you to breathe. Is your breathing normally like this?	Parece que usted tiene un poco de dificultad respirando. ¿Esto es normal para usted?
Are you nervous about the dental treatment today?	¿Estad nervioso/nerviosa sobre su tratamiento dental hoy?
I am concerned about your breathing. I want to call your doctor. Who is your doctor?	Estoy preocupado sobre su ritmo de respiración, y quiero llamar ha su doctor. ¿Quién es su doctor?

NOTE: The **Practical Focus— Fictitious Patient Cases** section for all of the vital signs modules is located in Module 10, Vital Signs: Blood Pressure.

SECTION 5 • **Skill Check**

Technique Skill Checklist: Pulse and Respiration

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as

S (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Positions the patient with the arm resting comfortably on the armrest or other support.		
Faces the patient. Grasps the patient's wrist with the fingers of the free (non–watch-bearing) hand.		
Using the finger pads, locates the radial pulse point on the thumb side of the patient's wrist. Applies only enough pressure so that the radial artery can be distinctly felt.		
Notes whether the pulse is regular or irregular.		
Using a watch with a second hand, counts the beats for a minimum of 30 seconds if the pulse is regular. Counts the pulse for 1 minute if the pulse is irregular. Calculates the pulse rate.		
Makes a mental note of the pulse rate and without letting go of the patient's wrist, begins to observe the patient's breathing. Does not inform the patient that the respirations are being assessed.		
When one complete cycle of inspiration and expiration has been observed, looks at watch in preparation for determining the respiratory rate. Counts the number of breaths for a minimum of 30 seconds. If breathing is abnormal in any way, counts		

the respirations for one minute. Calculates the respiratory rate.		
Records today’s date, time, and the pulse and respiratory rates in the patient chart or computer record.		
Reports pulse rate within +/−2 beats of the evaluator’s rate.		
Reports respiratory rate within +/−2 breaths of the evaluator’s rate.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Role-Play for Pulse and Respiration

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains what is to be done at the start of the pulse assessment procedure.		
At the conclusion of the pulse assessment, does not announce that respiration will be assessed next.		
Upon completion of the procedures, reports the pulse and respiration findings to the patient and explains if the readings are normal or outside the normal range and the significance of these findings.		
Encourages patient questions before and after the assessment procedure.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level and avoids dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s		

and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios for the modules in this textbook can be found at http://thepoint.lww.com/GehrigPAT4e.

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2. Mistovich JJ, Krost WS, Limmer DD. Beyond the basics: interpreting vital signs. *Emerg Med Serv*. 2006;35(12):194–199.
3. Hatlestad D. The anatomy and physiology of respiration. *Emerg Med Serv*. 2002;31(1):56–65.
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MODULE

10

VITAL SIGNS: BLOOD PRESSURE

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This is the third of three modules on vital signs assessment. Vital signs are a person’s temperature, pulse, respiration, and blood pressure. In addition to these standard vital signs, tobacco use has been suggested as the fifth vital sign. Tobacco use—smoking cigarettes, cigars, or pipes—is a contributing factor in many medical conditions and, in addition, increases the risk of periodontal disease.

MODULE OUTLINE

SECTION 1	**Blood Pressure Assessment in the Dental Setting**
SECTION 2	**Equipment for Blood Pressure Measurement** The Sphygmomanometer The Manometer Pressure Gauge

The Stethoscope
Automatic Blood Pressure Equipment

SECTION 3 **Measurement and Documentation of Korotkoff Sounds**
Blood Pressure Measurements
The Korotkoff Sounds
Auscultatory Phases
The Silent Auscultatory Gap
Fluctuations in Blood Pressure

SECTION 4 **Critical Technique Elements**
Cuff Size
Correct Sizing of Bladder
Arm Position during Blood Pressure Assessment
Palpatory Estimation of Blood Pressure

SECTION 5 **Peak Procedure**
Procedure 10-1. Blood Pressure Determination
Procedure 10-2. If Korotkoff Sounds Are Difficult to Hear

SECTION 6 **Ready References**
Ready Reference 10-1. Recommended Bladder Dimensions
Ready Reference 10-2. Classification of Blood Pressure for Adults Aged 18 Years or Older
Ready Reference 10-3. Blood Pressure Values for Children and Adolescents
Ready Reference 10-4. Dental Management of Hypertensive Adults
Ready Reference 10-5. Assessing Pediatric Patients
Ready Reference 10-6. Factors Affecting the Accuracy of Blood Pressure Measurement
Ready Reference 10-7. Causes of Inaccuracies in Blood Pressure Measurement

Ready Reference 10-8. Equipment Maintenance
Ready Reference 10-9. Internet Resources: Blood Pressure
Ready Reference 10-10. Summary Reports Related to Interpreting Blood Pressures

SECTION 7 **The Human Element**
The Man Behind Manual Blood Pressure Technique
Through the Eyes of a Student
Ethical Dilemmas
English-to-Spanish Phrase List

SECTION 8 **Practical Focus—Fictitious Patient Cases for Vital Signs Modules**

SECTION 9 **Skill Check**

KEY TERMS

Blood pressure • Systolic pressure • Diastolic pressure • Hypertensive • Hypotensive • Hypertension • Asymptomatic • Silent killer • Auscultatory method • Sphygmomanometer • Cuff • Manometer • Aneroid manometers • Mercury manometer • Earpieces • Brace • Binaurals • Amplifying device • Diaphragm endpiece • Bell endpiece • Systolic reading • Diastolic reading • Millimeters of mercury • Korotkoff sounds • Auscultatory gap • White-coat hypertension • Antecubital fossa • Estimated systolic pressure

OBJECTIVES

- Define the term *blood pressure* and describe factors that may affect a person's blood pressure.
- Define *systolic* and *diastolic blood pressure* and give their normal values.
- Explain how a sphygmomanometer works and demonstrate how to use this tool to measure blood pressure.

- Identify the bladder width and length of a cuff. Check to see if the length, width, and center of the bladder are correctly marked; if not, correctly mark the cuff.
- Explain why the blood pressure cuff is kept at heart level while measuring blood pressure.
- List and describe the Korotkoff sounds that are heard while taking a person's blood pressure.
- Define and discuss the significance of the auscultatory gap.
- Locate and palpate the brachial pulse point in the antecubital fossa.
- Demonstrate correct technique for accurately assessing the blood pressure.
- Provide information to the patient about the blood pressure assessment procedure and the readings that you obtain.
- Describe blood pressure findings that have implications in planning dental treatment.
- Provide appropriate referral to a physician when findings indicate the need for further evaluation.
- Compare findings for the fictitious patient cases found in Section 8 to the normal range for blood pressure.
- Demonstrate knowledge of blood pressure assessment by applying concepts from this module to the fictitious patient cases found in Section 8.

SECTION 1 • Blood Pressure Assessment in the Dental Setting

The National Heart, Lung, and Blood Institute (NHLBI) estimates that 65 million Americans have high blood pressure (hypertension). Of those 65 million, nearly 20 million are not aware they have the condition. There is a high prevalence of *undiagnosed* hypertension and prehypertension.[1] As the population ages, the prevalence of hypertension will increase even further unless broad-based measures are implemented for blood pressure screening.

Dental health care providers can play an important role in improving the current levels of detection for hypertension by implementing routine blood pressure screening (Boxes 10-1 and 10-2).[1]

BOX 10-1

Standard of Care for Blood Pressure Assessment

- The American Dental Association (ADA) recommends that blood pressure assessment should be a routine part of the initial appointment for all new dental patients—including children—as a screening tool for undiagnosed high blood pressure.[2]
- In addition, the ADA suggests that a blood pressure assessment should be performed routinely during continuing care appointments (3-, 4-, 6-, or 12-month recall appointments).
- The ADA, the American Academy of Pediatrics, and the American Heart Association recommend that blood pressure measurements be taken at all pediatric health care visits—including dental appointments—for patients 3 to 18 years of age.[3]

BOX 10-2

High Blood Pressure Facts

HYPERTENSION IN ADULTS

- According to the American Heart Association (AHA), nearly 1 in 3 U.S. adults has high blood pressure.
- Because there are frequently no symptoms from high blood pressure, nearly one-third of the people with this condition do not know they have it.
- 69% of Americans who have a first heart attack have blood pressure over 140/90 mm Hg.
- 77% of Americans treated for a first stroke have blood pressure over 140/90 mm Hg.
- 74% of Americans with congestive heart failure have blood pressure

over 140/90 mm Hg.

- More men than women have high blood pressure.
- Pregnant women are a high-risk group for high blood pressure whether they had hypertension before becoming pregnant or not.

HYPERTENSION IN CHILDREN AND ADOLESCENTS

- Children and adolescents are at risk for high blood pressure.
- Studies indicate that 2% to 4% of the pediatric population have hypertension.[7–11]
- Studies indicate that between 15% and 30% of obese children have hypertension,[7–11] which can lead to cardiovascular disease, type 2 diabetes mellitus, and fatty liver disease.[3,12–15]
- The American Dental Association (ADA), Academy of Pediatrics, and AHA recommend that children over 3 years of age who are seen in health care settings should have their blood pressure measured at least once during every health care episode.[3,14]

1. **Blood Pressure Overview.** Arterial **blood pressure** is the pressure exerted against blood vessel walls as blood flows through them. Every time the heart contracts in an adult, it forces 6 qt of blood beyond the torso and out to the head, hands, and feet. With each heart contraction, the blood not only pushes through the vessels but also presses outward against the vessel walls.
   a. The highest pressure occurs when blood is propelled through the arteries by the contraction of the heart. *During each heart contraction*, the pressure created by the blood as it presses through and against blood vessel walls is known as the **systolic pressure**.
   b. *When the heart relaxes between contractions*, the pressure exerted on the vessels lessens but only to a point. That lower pressure is known as the **diastolic pressure**.
   c. Blood pressure is one important clue to the health of the heart and blood vessels; therefore, blood pressure measurement is an important part of the patient assessment.

   d. Although both systolic and diastolic pressures are clinically significant, the latest evidence from research indicates that the systolic blood pressure is the more important of the two in the management of high blood pressure.[4–6]

2. **Hypertension and Hypotension**
   a. Blood pressure measurements indicate if a person is **hypertensive** (has abnormally high blood pressure) or **hypotensive** (has abnormally low blood pressure).
   b. High blood pressure—**hypertension**—is blood pressure that stays at or above 140/90 mm Hg.
   c. Blood pressure can increase when larger blood vessels begin to lose their elasticity and the smaller vessels start to constrict, causing the heart to try to pump the same volume of blood through vessels with smaller internal diameter.
3. **Symptoms, Diagnosis, and Treatment of Hypertension**
   a. Hypertension commonly has no obvious symptoms (i.e., is **asymptomatic**). For this reason, high blood pressure is often called the "**silent killer**."
   b. The only way for an individual to know if he or she has hypertension is to have a blood pressure screening.
   c. Fortunately, hypertension is easy and painless to detect in a few minutes using a blood pressure cuff and a stethoscope.
4. **Complications of Uncontrolled Hypertension**
   a. Uncontrolled hypertension is a serious condition that can lead to stroke, heart attack, heart failure, or kidney failure.
   b. In pregnant women, hypertension can lead to seizures or death as well as premature births or stillbirths.
5. **Treatment of Hypertension and Patient Compliance with Treatment**
   a. Simple treatments including weight loss, lifestyle changes, and medication can be effective in lowering blood pressure.
   b. Blood pressure medications are very effective at lowering blood pressure; however, many of the medications can have mild side

effects such as fatigue or dry cough.

c. ***For the blood pressure medications to work, patients must actually take them. Unfortunately, it is estimated that within a year of receiving a prescription, 50% of patients stop taking their blood pressure medication.***

SECTION 2 • Equipment for Blood Pressure Measurement

The gold standard for clinical blood pressure measurement is the **auscultatory method**, where a trained health care provider uses a **sphygmomanometer and a stethoscope** to *listen* for arterial sounds in the brachial artery. This is called the “auscultatory method” because the detection of sound is called “auscultation.”

The Sphygmomanometer

A **sphygmomanometer** (sss-image-mo-ma-*nom*-eter) consists of (1) a cuff with an inflatable bladder, (2) a hand bulb with a valve used to inflate and deflate the bladder, and (3) a pressure gauge. A sphygmomanometer is illustrated in Figure 10-1. Figure 10-2 shows different sizes of blood pressure cuffs.

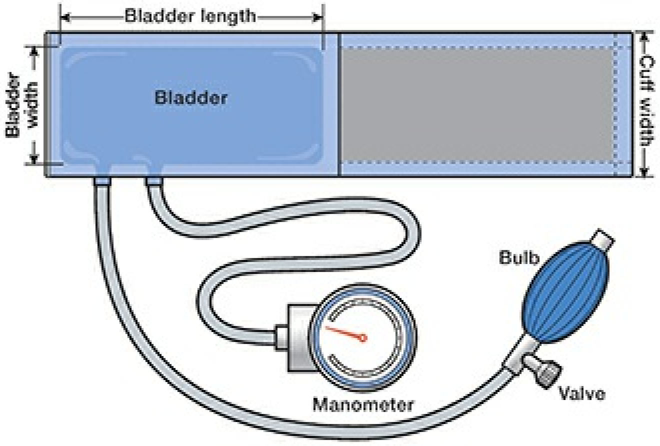


FIGURE 10-1 **The sphygmomanometer.** A manual sphygmomanometer consists of a **cuff**—an airtight, flat, inflatable bladder (pouch) covered by a cloth sheath; a **bulb**, which is squeezed to fill the cuff with air; and a manometer—a gauge that measures the air pressure in millimeters.

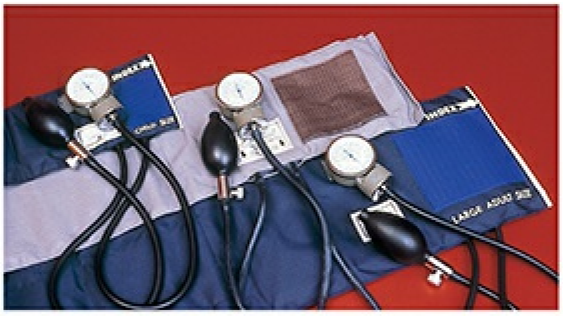


FIGURE 10-2 **Blood pressure cuffs in various sizes.** Blood pressure cuffs are available in a wide range of sizes. The correct size is selected in reference to the size of the upper arm midway between the point of the shoulder and the elbow. (Used with permission from Taylor CR, Lillis C, LeMone P, Lynn P. *Fundamentals of Nursing: The Art and Science of Nursing Care*. 7th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2011.)

The Manometer Pressure Gauge

A **manometer** is the device that measures the air pressure present in the inflatable pouch. The two traditional types of manometers are aneroid gauges and mercury column gauges (Fig. 10-3).

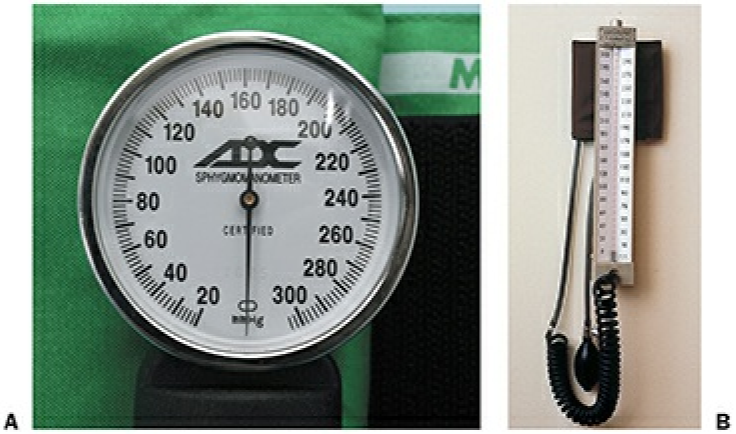


FIGURE 10-3 **Types of manometers. A.** An aneroid manometer is a small, round dial with a needle that indicates the pressure in millimeters (left photo). **B.** A mercury manometer is a device with a column of mercury that indicates the pressure in millimeters (right photo). (Used with permission from Carter PJ, *Lippincott's Textbook for Nursing Assistants*. 3rd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2011.)

1. **Aneroid manometers** use a round dial-type gauge to indicate the pressure reading.
   a. The aneroid gauge is the most commonly used type of manometer in a dental office setting.
   b. Aneroid devices are believed to be less accurate than mercury columns because they can be difficult to keep in calibration.[16]
      1) Aneroid manometers require regular checks for common defects

such as non-zeroed gauges, cracked faceplates, or defective rubber tubing.[17]

    2) These gauges should be validated for accuracy against a standard mercury manometer at 6-month intervals.[18,19] Refer to Ready Reference 10-8 in the "Ready References" section for information on calibration.
    3) To ensure regular maintenance, the calibration due date should be clearly marked on each gauge.

1. A **mercury manometer** is a device with a column of mercury to indicate the pressure reading.
    a. Mercury manometers are considered the gold standard measuring devices for blood pressure determination. This type may be placed on a table or mounted on the wall.
    b. It should be noted that mercury manometers pose a health threat if the manometer is broken causing the mercury to spill.

The Stethoscope

A **stethoscope** is a device that makes sound louder and transfers it to the clinician's ears. The parts of a stethoscope are illustrated in Figure 10-4 and are outlined below.

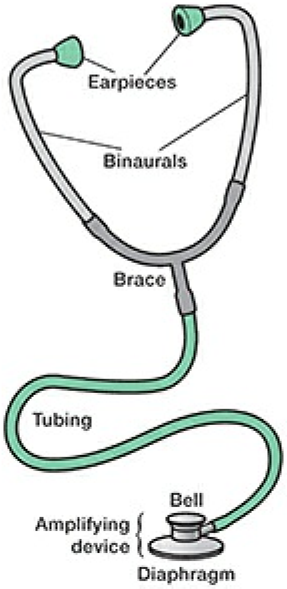


FIGURE 10-4 Parts of a stethoscope. A stethoscope has the following parts: earpieces, a brace, binaurals, and an amplifying device. The amplifying device may be two-sided, with a diaphragm on one side and a bell on the other.

1. **Earpieces**, which are placed in the clinician's ears
2. A **brace** and **binaurals**, which connect the earpieces to the tubing that conducts the sound
3. An **amplifying device**, which makes the sound louder; it may be two-sided with a diaphragm and bell or one-sided with only a diaphragm.
    a. The **diaphragm endpiece** has a large, flat surface that is used to hear loud sounds like the blood rushing through the arteries. The diaphragm endpiece covers a greater area and is easier to hold than a bell endpiece and is recommended for routine measurement of blood pressure in adults.[20]
    b. The **bell endpiece** has a small, rounded surface that is designed to hear faint sounds like heart murmurs. Some authors recommend the bell endpiece for measurement of blood pressure in children because it provides better sound reproduction.[3]

Automatic Blood Pressure Equipment

Automatic blood pressure equipment—also called digital or electronic blood pressure equipment—ranges from the highly calibrated types used in hospital settings to less advanced equipment designed for home use.

1. **Electronic Battery-Powered Devices.** The most common types of automatic blood pressure equipment found in the dental setting are electronic battery-powered devices (Fig. 10-5).
    - These devices use a microphone instead of a stethoscope to detect the blood pulsing in the artery.
    - The cuff connects to an electronic monitor that automatically inflates and deflates the cuff when the start button is pressed. There are two types of cuffs, arm, and wrist cuffs.
    - A monitor displays the blood pressure reading as a digital display.

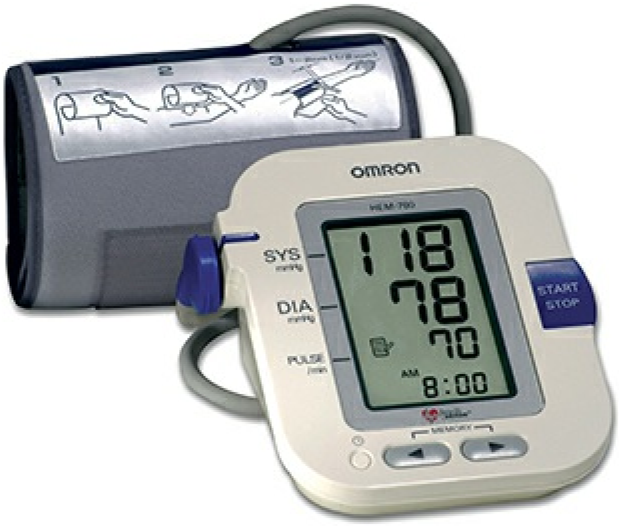


FIGURE 10-5 **Automatic blood pressure device.** The Omron HEM-780 automatic blood pressure device has been tested for accuracy against two protocols: the Association for the Advancement of Medical Instrumentation (AAMI) and the International Protocol of the European Society of Hypertension. In March 2001, the *British Medical Journal* published the results of tests on 23 home blood pressure devices. Of the 23 devices tested, only 5 were recommended, all 5 were Omron products. (Courtesy of Omron Healthcare, www.omronhealthcare.com.)

2. **Pros and Cons of Electronic Equipment**
   - Pro: These devices are easiest to use.
   - Con: These devices can be expensive.
   - Con: Many automatic devices do not provide accurate readings.
3. **Types of Automated Devices.** Three categories of automated devices are available: devices that measure blood pressure on the upper arm, the wrist, and the finger.
   - Devices that measure blood pressure at the finger are not recommended.[20]
   - Devices that measure blood pressure at the wrist are more accurate than finger devices but are still not recommended for use in the dental setting.[20]
   - Devices that measure blood pressure in the upper arm have been shown to be the most reliable of the three, both in clinical practice and in the major hypertension trials.
4. **Precautions for Use of Automated Equipment**
   - The main source of error with automatic devices is that the cuff has not been positioned at the level of the heart when the reading is taken.

- ***Automatic devices are convenient, but they do not provide measurements that always are a close match to measurements obtained a standard sphygmomanometer and stethoscope.***[3,21,22] ***The preferred method of blood pressure measurement is a traditional sphygmomanometer and a stethoscope (auscultation).***
- All automatic equipment should be verified using a traditional sphygmomanometer and a stethoscope before its use in a dental setting. An automated device that does not provide readings that are within 1 mm Hg of those obtained with a traditional sphygmomanometer and a stethoscope should not be used in the dental setting. Furthermore, the automatic device must be checked monthly for continued accuracy.
- ***An abnormally high or low reading obtained with an automatic device should be verified by retaking the blood pressure in a few minutes using a traditional sphygmomanometer and a stethoscope.***[3]

SECTION 3 • Measurement and Documentation of Korotkoff Sounds

Blood Pressure Measurements

1. **Systolic and Diastolic Readings.** Two readings are recorded for blood pressure.
   a. The **systolic reading** is the pressure of the blood flow when the heart beats—the pressure when the first sound is heard. During this stage, the heart is pumping blood through the arteries to the parts of the body (Table 10-1).

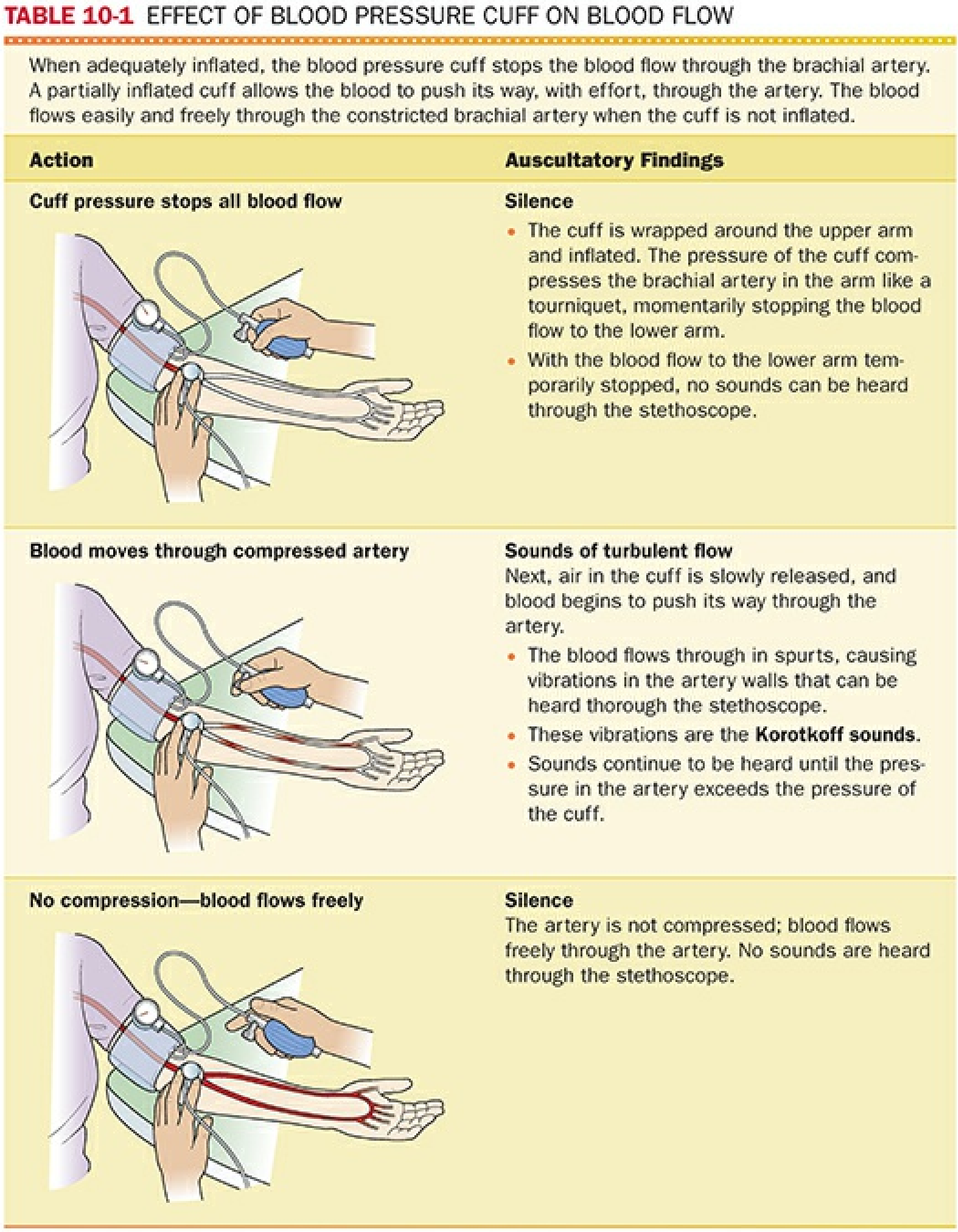


TABLE 10-1 EFFECT OF BLOOD PRESSURE CUFF ON BLOOD FLOW

When adequately inflated, the blood pressure cuff stops the blood flow through the brachial artery. A partially inflated cuff allows the blood to push its way, with effort, through the artery. The blood flows easily and freely through the constricted brachial artery when the cuff is not inflated.

Action	Auscultatory Findings
Cuff pressure stops all blood flow	**Silence** • The cuff is wrapped around the upper arm and inflated. The pressure of the cuff compresses the brachial artery in the arm like a tourniquet, momentarily stopping the blood flow to the lower arm. • With the blood flow to the lower arm temporarily stopped, no sounds can be heard through the stethoscope.
Blood moves through compressed artery	**Sounds of turbulent flow** Next, air in the cuff is slowly released, and blood begins to push its way through the artery. • The blood flows through in spurts, causing vibrations in the artery walls that can be heard thorough the stethoscope. • These vibrations are the **Korotkoff sounds**. • Sounds continue to be heard until the pressure in the artery exceeds the pressure of the cuff.
No compression—blood flows freely	**Silence** The artery is not compressed; blood flows freely through the artery. No sounds are heard through the stethoscope.

b. The **diastolic reading** is the pressure between heartbeats—the pressure when the last sound is heard. During this stage, the heart is relaxed and refills with blood before its next contraction.

2. **Millimeters of Mercury.** Blood pressure readings are recorded in **millimeters of mercury** (mm Hg) because the original mercury manometer devices used a column of mercury.

a. The pressure is measured by how high a pulsing artery can push a column of mercury in a manometer (Fig. 10-6A).

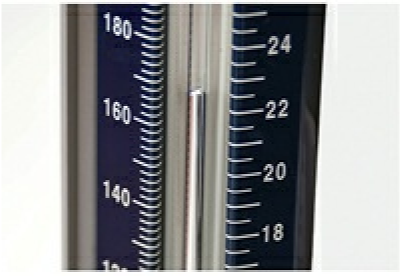


FIGURE 10-6A Systolic reading on a mercury manometer. The systolic reading on this gauge is 168 mm Hg.

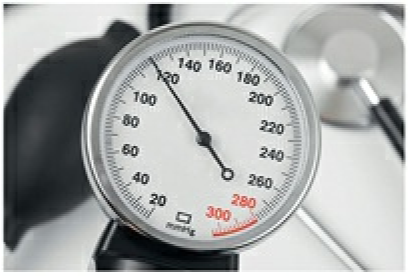


FIGURE 10-6B Systolic reading on aneroid manometer. The systolic reading shown on this gauge is 120 mm Hg.

b. Measurements made with an aneroid manometer also are recorded in mm Hg, despite the fact that these gauges contain no mercury (Fig. 10-6B).

c. The two blood pressure readings are recorded as a fraction (Box 10-3).

BOX **10-3**

Blood Pressure Measurements

Blood pressure measurements are recorded as a fraction with the systolic reading as the top number and the diastolic reading as the lower number in the fraction. A typical blood pressure reading for an adult might be 118/78 mm Hg. For example, if an individual's systolic blood pressure is 118 mm Hg and the diastolic blood pressure is 78 mm Hg, the blood pressure reading is recorded and read as "118 over 78."

$$\frac{\textbf{Systolic}}{\textbf{Diastolic}}$$

To remember that the diastolic number is the lower number, think "diastolic = down."

The Korotkoff Sounds

Blood pressure is most often measured by auscultation, using a sphygmomanometer and stethoscope. Auscultation is the act of listening for sounds within the body to evaluate the condition of the heart, blood vessels, lungs, or other organs. During blood pressure determination, a stethoscope is used to listen to sounds created by the blood as it pushes its way through the constricted brachial artery.

The **Korotkoff** (ko-rot-kov) **sounds** are the series of sounds that are heard as the pressure in the sphygmomanometer cuff is released during the measurement of arterial blood pressure (Boxes 10-4 and 10-5).

- Systolic pressure is defined as "the onset of the tapping Korotkoff sounds."
- The diastolic pressure is defined as "the disappearance of Korotkoff sounds."[3,20,23]

BOX 10-4

Korotkoff Sounds

Phase	Sounds and Characteristics
1	The first appearance of repetitive, clear tapping sounds that gradually increase in intensity • The **first tapping sound** is recorded as the **systolic pressure**.
2	A brief period of softer and longer swishing sounds
Gap	Auscultatory gap—in some patients, sounds may disappear altogether for a short time
3	The return of sharper sounds, which become crisper and louder thudding sounds
4	The distinct, abrupt muffling of sounds, which become soft and blowing in quality
5	The point at which all sounds finally disappear completely • Silence occurs as the blood flow returns to normal. • The **point when the last sound** is heard is recorded as the **diastolic pressure**.

BOX 10-5

Hear the Korotkoff Sounds on Online Video

“Korotkoff Blood Pressure Sights and Sounds,” is an excellent video clip from the Medical Committee of the Virginia Healthy Pathways Coalition. The video clip allows the viewer to hear examples of actual Korotkoff sounds.

Video link: http://vimeo.com/26580985

Auscultatory Phases

There are five phases of Korotkoff sounds.

- Each phase is characterized by the volume and quality of sound heard through the stethoscope. Figure 10-7 below illustrates these phases.
- These phases were first described by Nicolai Korotkoff and later elaborated by Witold Ettinger.[24–26]

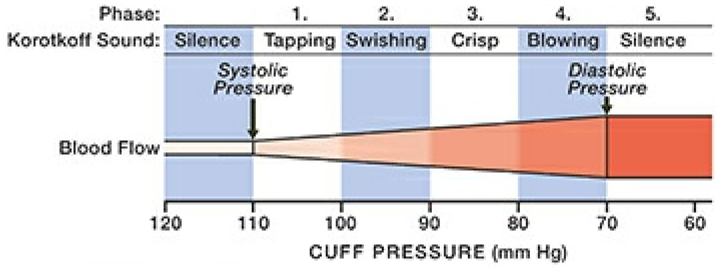

Phase:
1.
2.
3.
4.
5.
Korotkoff Sound:
Silence
Tapping
Swishing
Crisp
Blowing
Silence
Systolic Pressure
Diastolic Pressure
Blood Flow
120
110
100
90
80
70
60
CUFF PRESSURE (mm Hg)

FIGURE 10-7 **The five phases of Korotkoff sounds.** The Korotkoff sounds are characterized by the volume and quality of sound heard during each phase. In this representation, the systolic pressure is 110 mm Hg and the diastolic pressure is 70 mm Hg.

The Silent Auscultatory Gap

Failure to detect a gap in the Korotkoff sounds is a potential source of error in blood pressure measurement. The **auscultatory gap** is a period of ***abnormal silence*** that can occur between the Korotkoff phases (Fig. 10-8). Failure to recognize the presence of an auscultatory gap will result in an inaccurate blood pressure reading in which the systolic pressure is underestimated. Box 10-6 provides an example of how failure to recognize the auscultatory gap can result in inaccurate readings.

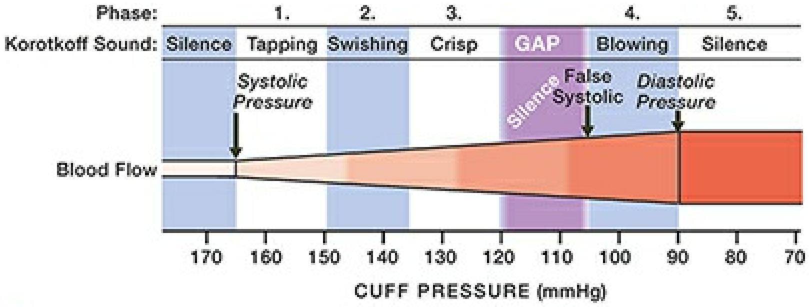

Phase:
1.
2.
3.
4.
5.
Korotkoff Sound:
Silence
Tapping
Swishing
Crisp
GAP
Blowing
Silence
Systolic Pressure
Silence
False Systolic
Diastolic Pressure
Blood Flow
170
160
150
140
130
120
110
100
90
80
70
CUFF PRESSURE (mmHg)

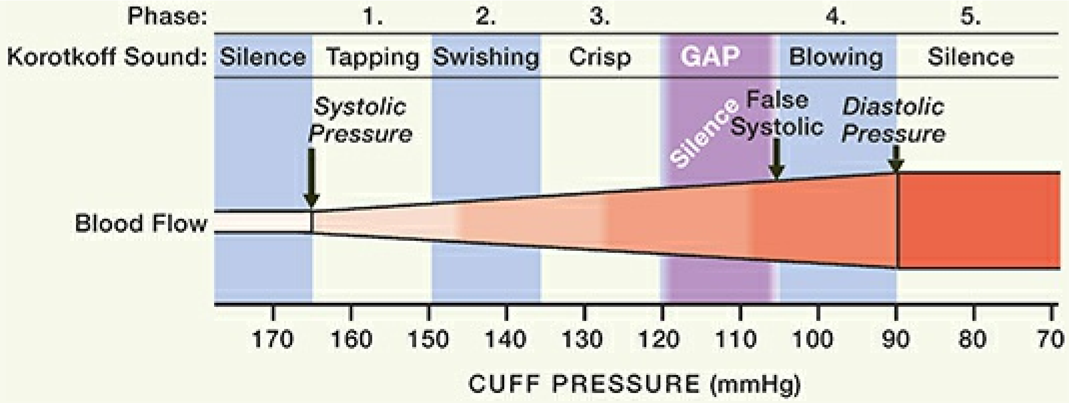
FIGURE 10-8 **Auscultatory gap—an example.** In this example, the fictitious patient exhibits a gap in sounds between 120 mm Hg and 106 mm Hg; this silent period is known as the auscultatory gap.

BOX
10-6

The Impact of an Unrecognized Auscultatory Gap

TECHNIQUE ERROR: GAP MISTAKEN FOR THE SILENT PERIOD BEFORE PHASE 1

1. If the cuff is not inflated high enough, the clinician will mistake the gap in sounds as the silent period before the phase 1 sounds begin.
2. In the example shown below, if the clinician only inflates the cuff to 116 mm Hg:
    - The auscultatory gap is unrecognized. Because the clinician only starts listening at 116 mm Hg (within the gap in sounds), he mistakes the sounds he or she hears at 106 mm Hg as the start of the Korotkoff sounds.
    - The systolic pressure is significantly underestimated as 106 mm Hg and interpreted as being within the normal range. Instead, the true systolic reading of 166 mm Hg is above the recommended range.


Phase:
1.
2.
3.
4.
5.
Korotkoff Sound:
Silence
Tapping
Swishing
Crisp
GAP
Blowing
Silence
Systolic Pressure
Silence
False Systolic
Diastolic Pressure
Blood Flow
170
160
150
140
130
120
110
100
90
80
70
CUFF PRESSURE (mmHg)

DETECTION OF AUSCULTATORY GAP

Palpation of the brachial or radial pulse during cuff inflation ensures that an auscultatory gap is not mistaken for the start of Phase I sounds.[27]

Fluctuations in Blood Pressure

Blood pressure varies from moment to moment and can be influenced by many factors such as body position, respiration, emotion, anxiety, exercise, meals, tobacco, alcohol, temperature, and pain. Blood pressure also is influenced by age and race and is usually at its lowest during sleep. These influences on blood pressure can be significant, often accounting for rises in systolic blood pressure greater than 20 mm Hg. These factors have to be carefully considered in all circumstances of blood pressure measurement. Insofar as is practical, the patient should be relaxed in a quiet room for a short period of time before measurement.

White-coat hypertension refers to blood pressure that rises above its usual level when it is measured in a health care setting (such as a medical or dental office, where a health care provider may be wearing a white lab coat).[3,28–31] White-coat hypertension is more common in people who have high blood pressure, and in the dental setting, their blood pressure is remarkably higher than normal. This increase in blood pressure tends to subside once the patient becomes more relaxed as the dental appointment progresses. In many cases, continuing with the extraoral examination and then retaking the blood pressure measurement will yield a lower blood pressure reading.

SECTION 4 • Critical Technique Elements

The procedure for the measurement of arterial blood pressure using a sphygmomanometer is well established, and consensus recommendations have been produced by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (United States), Canadian Hypertension Education Program, British Hypertension Society, and the European Society of Hypertension in the interest of standardization.[20,32,33,34–38]

- Every person who performs blood pressure assessments should undergo careful training and be aware of common errors in technique.
- Four of the most critical technique elements for accurate blood pressure determination are the ability to (1) select the proper cuff size, (2) place the cuff, (3) position the patient's arm, and (4) obtain a palpatory estimate of the blood pressure.[16,35,36,39]

Cuff Size

In the case of blood pressure cuffs, one size does ***not*** fit all. Improper bladder width or length is one of the primary sources of error in accurately assessing blood pressure. Proper technique includes selecting the correct cuff size for the patient's upper arm.[40–42] Each dental office or clinic should have a set of three to four cuffs to properly fit a variety of arm sizes (Fig. 10-2).

- Cuffs are usually labeled as child, adult small, adult standard, adult large, and adult thigh. Unfortunately, at the current time, there is no universal standardization among manufacturers. For this reason, the bladder dimensions may vary in length and width.
- The American Heart Association (AHA) Guidelines for cuff selection are summarized in Ready Reference 10-1 in the "Ready References" section of this module.
- Ideally, every cuff should be labeled with the dimensions of the enclosed

bladder, and a line should mark the center of the bladder. The user should mark unlabeled cuffs by outlining the bladder and indicating its midpoint.

- It is the ***length and width of the inflatable bladder***—not its cloth sheath—that affects the accuracy of blood pressure measurement.[43] Figure 10-9 (see Box 10-7) illustrates the bladder length and width.

BOX 10-7

Cuff Size

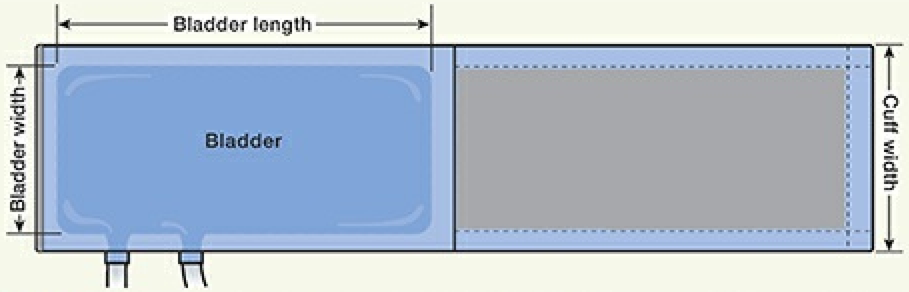


FIGURE 10-9 **Bladder size.** The length and width of the bladder are used when selecting the correct cuff size for the patient's arm.

Correct Sizing of Bladder

To select the correct cuff size, both the bladder length and width need to be sized correctly for each individual patient.

- ***When placed on the midpoint of the upper arm on an adult patient, the bladder length should encircle at least 80% of the midpoint of the upper arm*** (Fig. 10-10).

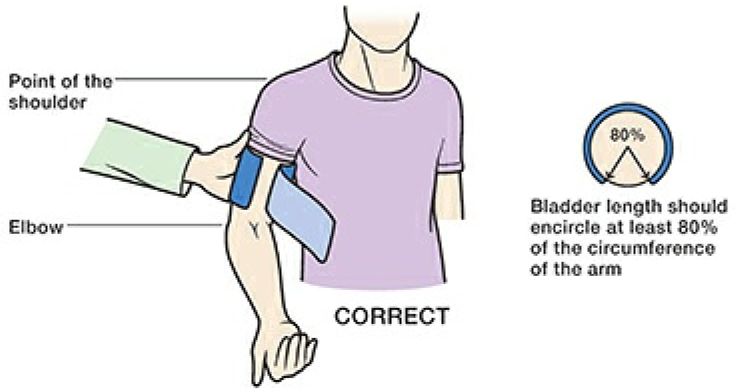

Point of the shoulder
Elbow
CORRECT
80%
Bladder length should encircle at least 80% of the circumference of the arm

FIGURE 10-10 Cuff sizing for correct bladder length. The length of the inflatable bladder should encircle at least 80% of the midpoint of the upper arm—almost long enough to encircle the arm.[3,17,39] Note that in children younger than 13 years, the bladder might encircle 100% of the midpoint of the upper arm.

- ***When placed on the midpoint of the arm on an adult patient, the width of the bladder should encircle at least 40% of the arm*** (Fig. 10-11).

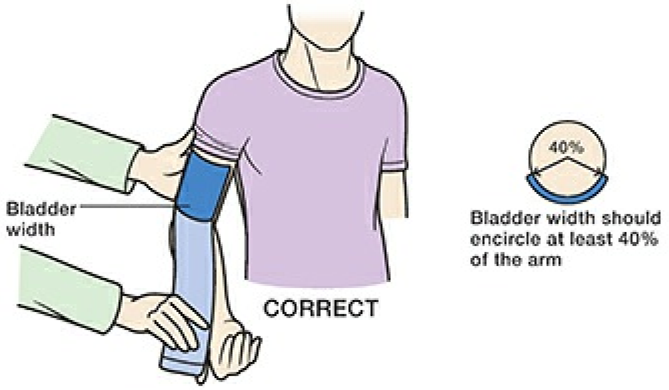

Bladder width
CORRECT
40%
Bladder width should encircle at least 40% of the arm

FIGURE 10-11 Cuff sizing for correct bladder width. It is recommended that the width of the inflatable bladder should encircle at least 40% of the midpoint of the upper arm.[3,17,39]

- A bladder that is too small causes overestimation of the blood pressure —false high readings—because the pressure is not evenly transmitted to the brachial artery. A bladder that is too large may cause underdiagnosing of hypertension—false low readings—because the pressure of the cuff is dispersed over too large a surface of the arm.

Arm Position during Blood Pressure Assessment

1. **Correct Arm Position for Blood Pressure Assessment in the Dental Setting.** Proper positioning of the patient's arm is key to obtaining an accurate blood pressure reading. Blood pressure readings go up or down depending on where the arm is positioned. Recommendations of the

AHA, Canadian Hypertension Education Program, and the British Hypertension Society (BHS) are all in agreement on the recommendation for arm position (Box 10-8).[20,37,38,44–46]

a. **Seated Position.** ***The patient should be seated comfortably with his or her back supported.***

b. **Arm Supported by Clinician.**

   1) ***The clinician should support the patient's arm by holding it under the elbow***.

   2) The phrase "passively supported arm" indicates that the weight of the patient's arm should be supported by the clinician rather than held in position by the patient.

   3) A rise in blood pressure and heart rate occurs if the patient must tense his or her muscles to support the weight of the arm.

c. **Antecubital Fossa at Mid-sternum Level.** ***The arm should be horizontal with the antecubital fossa at the level of the patient's heart (about mid-sternum)***. ***The patient's arm and hand should be relaxed and the elbow slightly flexed***.

   1) The **antecubital fossa** is the hollow or depressed area in the underside of the arm at the bend of the elbow (Fig. 10-12).

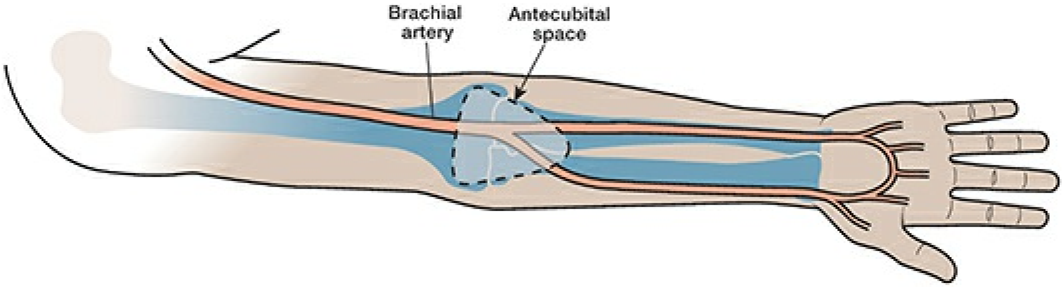


FIGURE 10-12 **Location of the antecubital fossa.** The antecubital fossa is the hollow area in the underside of the arm at the bend of the elbow.

   2) During blood pressure determination, the antecubital fossa is used as a: (1) landmark for locating the brachial pulse point, (2) reference point for cuff placement, and (3) reference point for correct arm position.

      a) The cuff is placed around the upper arm with the lower edge of the cuff about 1 in (2.5 cm) above the antecubital fossa.

b) The patient’s arm is positioned with the antecubital fossa level with the heart. Figure 10-13 in Box 10-8 demonstrates correct arm and cuff position.

BOX 10-8

Correct Arm and Cuff Position for Blood Pressure Assessment

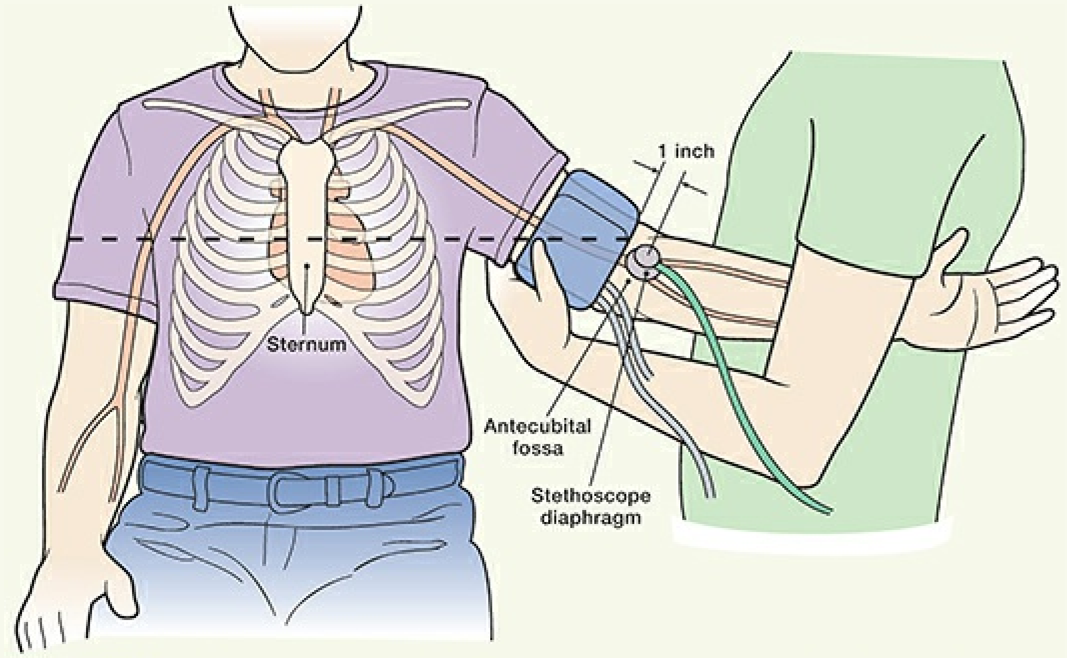


FIGURE 10-13 Correct arm and cuff position. For blood pressure determination, the patient's arm should be supported passively with the antecubital fossa at mid-sternum level of the patient.

d. **Differences between Arms.** Some studies have demonstrated significant differences between the blood pressure reading obtained from the right versus the left arm of an individual.[20] For this reason, the clinician should document the arm used at the initial assessment in the patient record and use the same arm at subsequent visits.

2. **Effect of Level of Antecubital Fossa during Blood Pressure Assessment**

   a. **Antecubital Fossa Positioned Too Low**

      1) Allowing the patient’s arm to hang by the patient’s side or lay on the dental chair’s armrest can result in false high readings.

    2) Overestimating the blood pressure in a *medical setting* might result in overtreatment, for example, prescribing blood pressure medication for a patient who does not really need treatment.
    3) Overestimating the blood pressure in a *dental setting* might needlessly delay dental treatment due to concern that the patient is hypertensive.

b. **Antecubital Fossa Positioned Too High**
    1) Positioning the patient's arm so that the antecubital fossa is above mid-sternum level can result in false low readings.
    2) Underestimating the blood pressure in a *medical setting*, in the worst case, could lead to heart attack or stroke.
    3) Underestimating the blood pressure in a *dental setting* is a missed opportunity to identify hypertension and refer the patient to a primary care physician. In addition, it could result in a medical emergency during dental treatment.

Palpatory Estimation of Blood Pressure

To avoid falsely low systolic pressure readings, the systolic pressure can be estimated before the clinician uses the stethoscope by palpating the brachial artery pulse and inflating the cuff until the pulsation disappears. The point at which the pulsation disappears is the **estimated systolic pressure**.

- This palpatory estimation is important, because phase 1 sounds sometimes disappear as pressure is reduced and reappear at a lower level—auscultatory gap—resulting in the systolic pressure being underestimated unless already determined by palpation.[20]
- If the systolic pressure is not first estimated by palpation, insufficient inflation of the cuff may cause the clinician to mistake the lower end of the gap as the systolic pressure.
- Measuring palpable pressure first avoids the risk of seriously underestimating blood pressure because of the auscultatory gap.
- The radial artery also is used for palpatory estimation of the systolic pressure, but by using the brachial artery, the clinician also establishes

its location. Later in the procedure, the stethoscope-amplifying device is placed over the brachial artery to listen for the Korotkoff sounds.

- The brachial pulse point is located just above the antecubital fossa toward the inner aspect of the arm (Fig. 10-14).

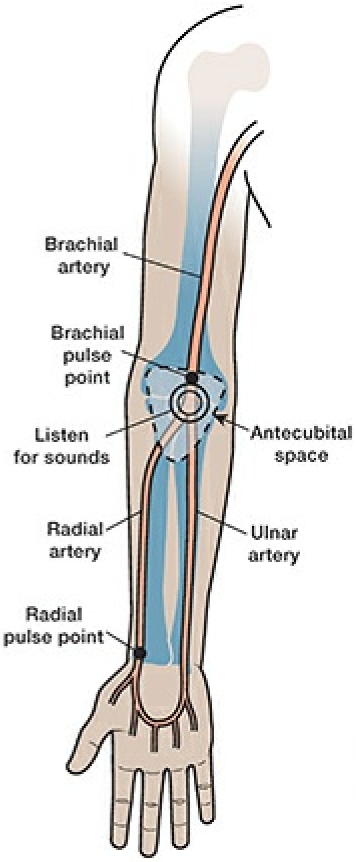

Brachial artery
Brachial pulse point
Listen for sounds
Antecubital space
Radial artery
Ulnar artery
Radial pulse point

FIGURE 10-14 **Brachial pulse point and other anatomic landmarks for blood pressure assessment.**

- The brachial artery is palpated just above the antecubital fossa toward the inner aspect (little finger side) of the arm.
- The amplifying endpiece of the stethoscope is placed over the pulse—just above the antecubital fossa toward the inner aspect of the arm—but below the lower edge of the cuff.

SECTION 5 • Peak Procedure

Procedure 10-1. Blood Pressure Determination

EQUIPMENT

Stethoscope
Sphygmomanometer known to be accurate
Blood pressure cuff of the appropriate size
A watch or clock displaying seconds

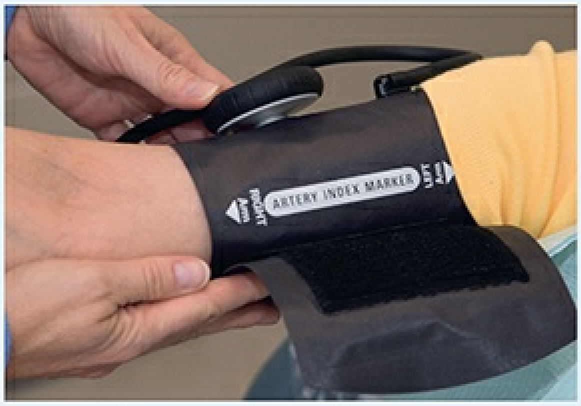
Pen (or computer keyboard)
Patient chart or computer record

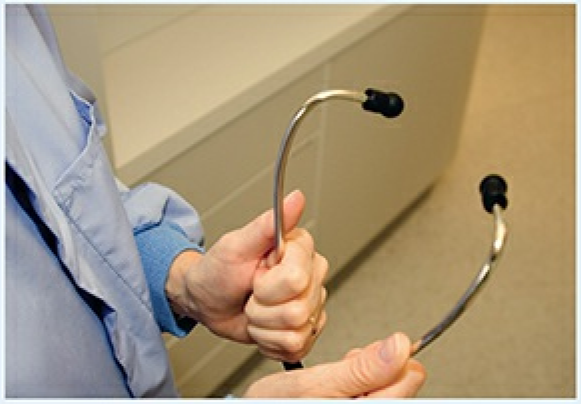
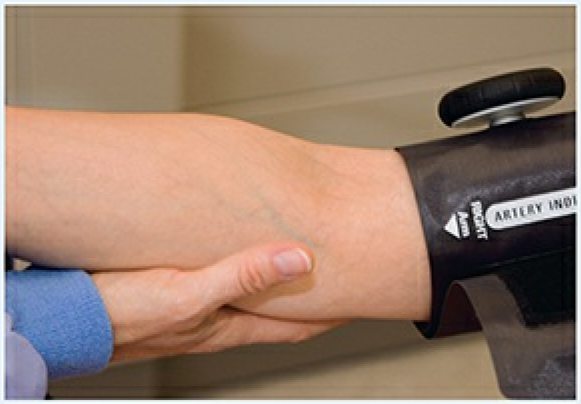
GENERAL CONSIDERATIONS

- The patient should not have had alcohol, tobacco, caffeine, or performed vigorous exercise within 30 minutes of the blood pressure assessment.
- After escorting the patient to the treatment room, allow him or her to relax for at least 5 minutes before beginning the vital signs assessment. If a glass thermometer is used for temperature determination, the pulse, respiration, and blood pressure may be assessed while the thermometer is registering the patient's temperature.
- Delay obtaining the blood pressure if the patient is anxious or in pain.
- ***The patient should be sitting in an upright position with his or her back supported and legs uncrossed.***[47] ***The patient should not be moving or speaking during the procedure***.

Action	Rationale
1. Briefly explain the procedure to the patient. If the patient has never had a blood pressure assessment, explain that some minor discomfort can be caused by the inflation of the cuff.[20]	• Reduces patient apprehension and encourages patient cooperation
2. Select an appropriate arm—no breast cancer surgery involving lymph node removal on that side, cast,	• Measurement of blood pressure may temporarily impair circulation to the compromised arm.

injured limb, or other compromising factor.	
3. Choose a cuff with an appropriate bladder width and length matched to the size of the patient's upper arm. Squeeze the bladder to completely deflate the cuff.	• Using a cuff with the wrong size bladder may result in inaccurate readings. • Air remaining in the bladder makes it difficult to wrap the cuff around the arm.
4. The patient's upper arm should be bare. The sleeve should not be rolled up if doing so creates a tight roll of cloth around the upper arm.	• Clothing over the artery interferes with the ability to hear sounds. • Tight clothing on the arm causes congestion of blood in the arm and can result in inaccurate readings. Remove arm from sleeve, if sleeve cannot be rolled up without creating a tight roll of cloth.
5. Ask the patient to assume a comfortable position with the palm of the hand upward.	• There is no need for the patient's arm to be in an uncomfortable position.
6. Position the cuff so that the lower edge is 1–2 in (2–3 cm) above the elbow crease.[20,36] Place the cuff so that the midline of the bladder is	• Allows sufficient space below the cuff so that the amplifying device of the stethoscope can be placed on the brachial pulse point in the antecubital fossa

centered over the brachial artery (Fig. 10-15). Wrap the cuff smoothly and snugly around the arm. Fasten it securely. The tubing from the cuff should not cross the auscultatory area.	- Centering the bladder over the brachial artery assures equal compression of the artery by the bladder pressure. - Loose application of the cuff results in overestimation of the pressure. - Contact of the amplifying device of the stethoscope with the tubing creates noises that make it difficult to hear the Korotkoff sounds.
 **FIGURE 10-15** **Position the cuff.** Position the cuff so that the lower edge is 1–2 in (2–3 cm) above the elbow crease and the midline of the bladder is centered over the brachial artery.	
7. Place the manometer so the mercury column or aneroid dial is easily visible to the clinician and the tubing from the cuff is unobstructed.	- Improper positioning of the gauge can lead to errors in reading the measurements. - Instruct the patient not to talk during the blood pressure procedure.

8. Place the earpieces of the stethoscope into the ear canals with the ***earpieces angled forward*** (Fig. 10-16).	• This forward angle directs the earpieces into the canal and not against the ear itself.
	**FIGURE 10-16 Position the earpieces.** Direct the stethoscope earpieces forward so that they will be directed into the ear canals and not against the ear itself.
9. Grasp the patient's elbow with your hand and raise the arm. Support the patient's arm so that the antecubital fossa is at mid-sternum level. The patient's arm should remain somewhat bent and completely relaxed (Fig. 10-17).	• A lower arm position will result in erroneously high readings. • A higher arm position will result in erroneously low readings. • If the patient does the work of holding up the arm, the readings will be elevated.
	**FIGURE 10-17 Establish correct arm position.** Support the patient's arm so that the antecubital fossa is at mid-sternum level.

10. Palpate the brachial pulse by gently pressing with the fingertips. Use your free hand to tighten the valve on the air pump. Inflate the cuff rapidly to 70 mm Hg and then increase by increments of 10 mm Hg. Note the pressure at which the pulse disappears. This is a rough estimate of the systolic pressure.	• Palpation allows for estimation of the systolic pressure. • The bladder will not inflate unless the valve is completely closed. • The palpatory method is used to avoid underinflation of the cuff in patients with an auscultatory gap or over inflation in those with very low blood pressure.
11. Open the valve, deflate the cuff rapidly leaving it in place on the arm, and wait 15 seconds.	• Allowing a brief pause before continuing permits the blood to refill and circulate through the arm.
12. Gently place the amplifying endpiece of the stethoscope over the pulse—just above the antecubital fossa toward the inner aspect of the arm—but below the lower edge of the cuff. Hold the amplifying device in place with your fingers, making sure that it makes contact with the skin around its entire circumference (Fig. 10-18).	• Wedging the amplifying device under the edge of the cuff creates extraneous noise that will distract from the sounds made by the blood flowing through the artery. • Heavy pressure on the brachial artery distorts the shape of the artery and the sound.[20] • Moving the amplifying device produces noise that can obscure the Korotkoff

sounds.

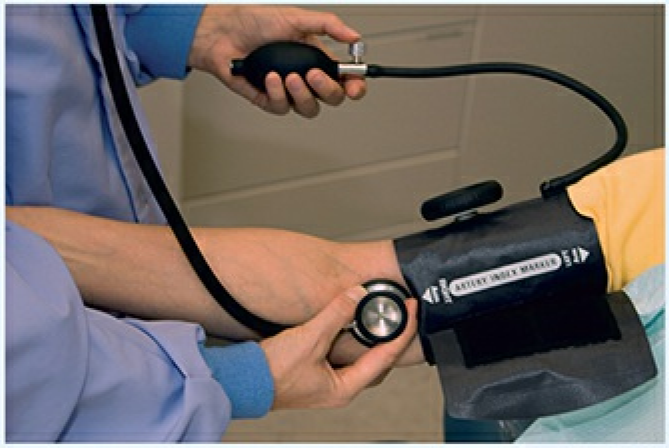


FIGURE 10-18 **Position the amplifying device.** Hold the amplifying device firmly in place, making sure that the head contacts the skin around its entire circumference.

13. Hold the air pump bulb so that it is easy to reach the valve at the top (Fig. 10-19). Close the valve at the top of the bulb.	- Having the valve within easy reach is important because the other hand is used to hold the amplifying device against the arm.

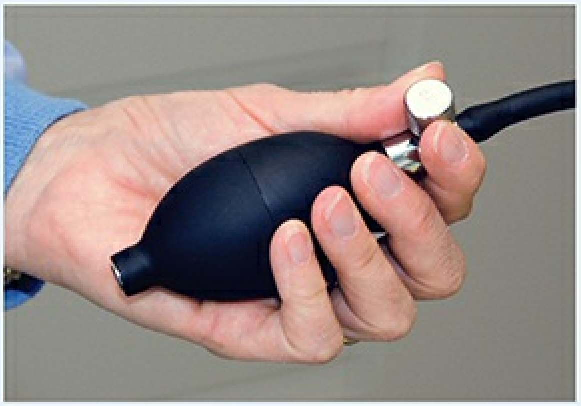
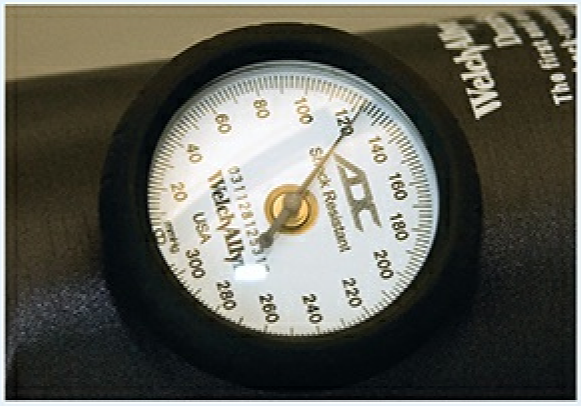
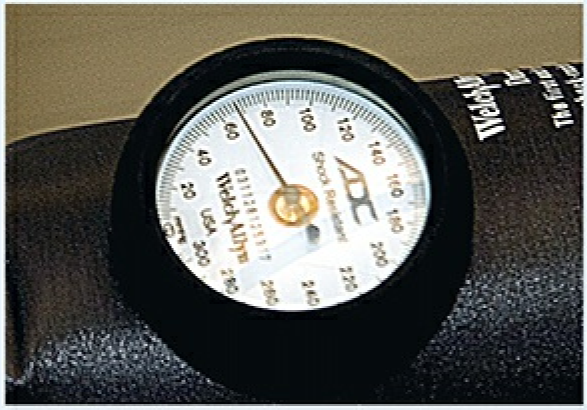


FIGURE 10-19 **Grasp the air pump bulb.** Hold the bulb in your hand so the valve is easy to reach.

14. Using brisk squeezes of the bulb, rapidly inflate the bladder to a pressure 30 mm Hg above the level previously determined by	- Rapid inflation of the bladder cuts off the blood flow quickly and intensifies the sounds heard later as the air is

palpation. At 30 mm Hg above the systolic estimate, slightly open the valve and release the pressure slowly so that the pressure gauge ***drops no faster than 2 mm Hg per second***.[20]	slowly released. • Increasing the pressure above that of the palpated pressure assures a silent period before hearing the first sound. • A slow cuff deflation rate of 2 mm per second is necessary for accurate readings.
15. Pay careful attention to sounds heard through the stethoscope as the needle on the gauge falls. Listen for the first clear tapping sound (the systolic pressure). Make a mental note of this pressure (Fig. 10-20).	• Systolic pressure is the point at which the blood in the artery is first able to force its way through the vessel. The first clear, tapping sound is the systolic pressure.
 WelchAllyn ADC Shock Resistant 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300	**FIGURE 10-20 Note the systolic pressure.** Note the systolic pressure reading when you hear the first clear tapping sound.
16. Do not reinflate the cuff once the air has been released to recheck the systolic reading.	• Reinflating a partially inflated cuff causes congestion in the lower arm, which lessens the

If you are uncertain of the systolic reading, continue releasing air and listen carefully for the diastolic pressure.	loudness of the Korotkoff sounds. • Obtain the diastolic pressure, wait 30 seconds, and repeat the procedure to obtain the systolic reading.
17. Continue releasing pressure slowly at a rate of 2 mm per second. The sounds should become louder in intensity, then muffle, and then disappear. Listen carefully and note the point at which the sounds disappear (the diastolic pressure). Note the diastolic pressure (Fig. 10-21).	• Diastolic pressure occurs when the blood is able to resume normal flow through the vessel. This smooth flow of blood is silent.
 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 Shock Resistant WelchAllyn USA	**FIGURE 10-21 Note the diastolic pressure.** Note the diastolic pressure reading at the point at which the sounds disappear.
18. After the last Korotkoff sound is heard, the cuff should be deflated slowly for at least another 10 mm	• Slow deflation for 10 mm Hg ensures that no further sounds are audible. • Once all sounds have

Hg. Then, allow the remaining air to escape rapidly. If the Korotkoff sounds persist as the pressure level approaches 0 mm Hg, then phase 4 is used to indicate the diastolic pressure.	disappeared, the cuff is deflated rapidly to prevent venous congestion of the arm.[20] • The American Heart Association recommends using the muffling of sound as the diastolic pressure when recording blood pressure in children.
19. Immediately record the two numbers as a fraction in whole, even numbers. Also record the arm and the patient’s position. An auscultatory gap should always be noted (112/76, mm Hg, right arm, seated).	• Recording the pressures promptly helps to ensure accuracy.[20] • Do not round off the reading to the nearest 5- or 10-mm Hg digit.
20. Blood pressure may be taken in both arms on the patient’s initial visit to the dental office or clinic. If there is more than a 10-mm Hg difference between the two arms, the arm with the higher readings should be used at future appointments.	• It is common to have a 5- to 10-mm Hg difference in the systolic reading between the arms. Use the arm with the higher reading for subsequent pressures.
21. Repeat any reading that is outside the expected range but wait 30 to 60 seconds	• Repeat reading to confirm the accuracy of the original measurement.

between readings to allow normal circulation to return to the arm. • Be sure to deflate the bladder completely between attempts to check the blood pressure.	• False readings are likely to occur if there is congestion of blood in the arm when obtaining repeat readings.
22. Inform the patient and explain the significance of the blood pressure readings (Fig. 10-22).	• The patient is interested in the results. This is an opportunity to educate the patient about hypertension.
	FIGURE 10-22 **Inform the patient.** Tell the patient the reading and explain the significance of the reading.
23. Remove the cuff and clean and store the equipment.	• Equipment should be left in a manner so that it is ready for use.

Procedure 10-2. If Korotkoff Sounds Are Difficult to Hear

If the Korotkoff sounds are difficult to hear, the following techniques are recommended:

1. Raise the patient's arm—with cuff in place—over his or her head for 15 seconds before rechecking the blood pressure. Raising the arm over the head helps relieve the congestion of

blood in the arm, increases pressure differences, and makes the sounds louder and more distinct when blood enters the lower arm.

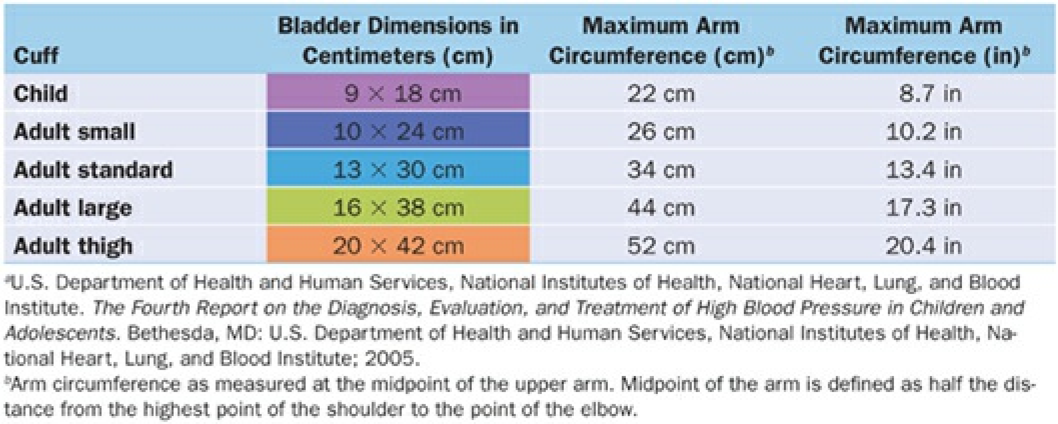
Reposition any clothing that might be rubbing against the stethoscope tubing (causing extraneous noises).

2. Confirm that the stethoscope earpieces are angled forward and snuggly in ear canals.
3. Hold your hands and tubing as still as possible.
4. Confirm the amplifying device is over the brachial pulse point and the entire circumference is in contact with the skin.
5. Inflate the cuff rapidly.
6. Inflate the cuff with the antecubital fossa elevated above heart level and then gently lower the arm while continuing to support it.
7. Deflate the cuff at a steady rate of 2 mm Hg per second while listening for the Korotkoff sounds.

SECTION 6 • **Ready References**

NOTE: The Ready References in this book may be removed from the book by tearing along the perforated lines on each page. Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

Ready Reference 10-1. Recommended Bladder Dimensions[a]

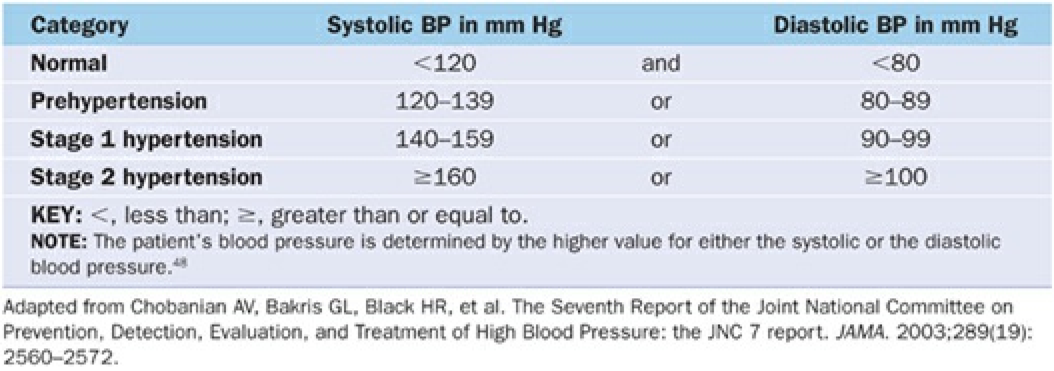


Cuff	Bladder Dimensions in Centimeters (cm)	Maximum Arm Circumference (cm)[b]	Maximum Arm Circumference (in)[b]
Child	9 × 18 cm	22 cm	8.7 in
Adult small	10 × 24 cm	26 cm	10.2 in
Adult standard	13 × 30 cm	34 cm	13.4 in
Adult large	16 × 38 cm	44 cm	17.3 in
Adult thigh	20 × 42 cm	52 cm	20.4 in

[a] U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute. *The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents*. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2005.

[b] Arm circumference as measured at the midpoint of the upper arm. Midpoint of the arm is defined as half the distance from the highest point of the shoulder to the point of the elbow.

Ready Reference 10-2. Classification of Blood Pressure for Adults Aged 18 Years or Older



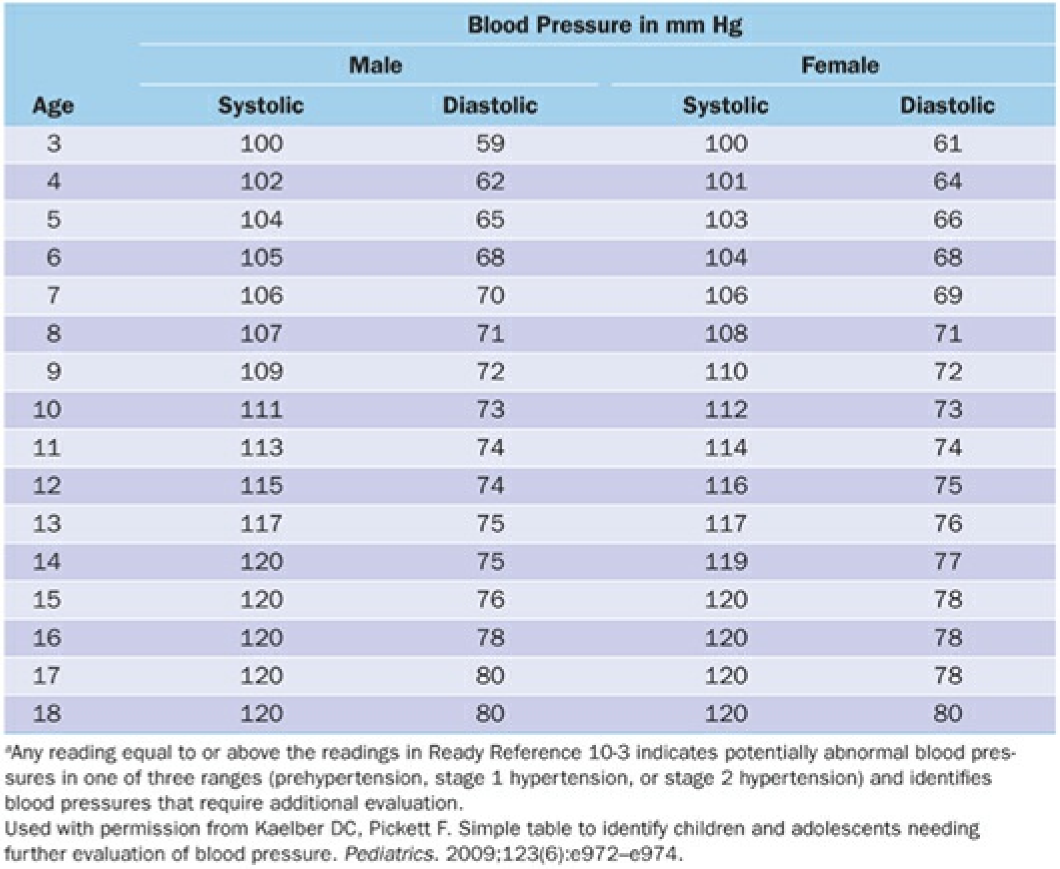
Category	Systolic BP in mm Hg		Diastolic BP in mm Hg
Normal	<120	and	<80
Prehypertension	120–139	or	80–89
Stage 1 hypertension	140–159	or	90–99
Stage 2 hypertension	≥160	or	≥100

KEY: <, less than; ≥, greater than or equal to.

NOTE: The patient's blood pressure is determined by the higher value for either the systolic or the diastolic blood pressure.[48]

Adapted from Chobanian AV, Bakris GL, Black HR, et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. *JAMA*. 2003;289(19):2560–2572.

Ready Reference 10-3. Blood Pressure Values for Children and Adolescents[a]



Age	Blood Pressure in mm Hg			
	Male		Female	
	Systolic	Diastolic	Systolic	Diastolic
3	100	59	100	61
4	102	62	101	64
5	104	65	103	66
6	105	68	104	68
7	106	70	106	69
8	107	71	108	71
9	109	72	110	72
10	111	73	112	73
11	113	74	114	74
12	115	74	116	75
13	117	75	117	76
14	120	75	119	77
15	120	76	120	78
16	120	78	120	78
17	120	80	120	78
18	120	80	120	80

[a] Any reading equal to or above the readings in Ready Reference 10-3 indicates potentially abnormal blood pressures in one of three ranges (prehypertension, stage 1 hypertension, or stage 2 hypertension) and identifies blood pressures that require additional evaluation.

Used with permission from Kaelber DC, Pickett F. Simple table to identify children and adolescents needing further evaluation of blood pressure. *Pediatrics*. 2009;123(6):e972–e974.

Ready Reference 10-4. Dental Management of Hypertensive Adults

Systolic/Diastolic Blood Pressure	**Dental Management Recommendations**
<140/90	1. Routine dental treatment can be provided; recommend lifestyle modifications (i.e., diet, exercise, quit smoking). 2. Retake blood pressure at continuing care appointment as a screening strategy for hypertension.

140–159/90–99	1. If the initial reading is in this range, retake blood pressure after 5 minutes and patient has rested. Retaking the blood pressure determines the accuracy of the initial readings. 2. Inform patient of blood pressure status; recommend lifestyle modifications. 3. Routine treatment can be provided. Employ stress reduction strategies. **Refer to Box 5-5 in Module 5 to review Strategies for Stress Reduction.** 4. Measure prior to any appointment. If patient has measurements above normal range on three separate appointments—and is not under the care of a physician for hypertension—refer for medical evaluation.
160–179/100–109	1. Retake blood pressure after 5 minutes and patient has rested. 2. If still elevated, inform patient of readings. 3. Refer for medical evaluation within 1 month; delay

	treatment if patient is unable to handle stress or if dental procedure is stressful. If local anesthesia is required, use 1:100,000 vasoconstrictor. 4. Routine treatment can be provided. Employ stress reduction strategies during dental treatment.
≥180/≥110	1. Retake blood pressure after 5 minutes and patient has rested. 2. Delay dental treatment until blood pressure is controlled. 3. Refer to physician for immediate medical evaluation. Require a medical release form from the patient’s physician prior to dental treatment. 4. If emergency dental care is needed, it should be done in a setting in which emergency life support equipment is available, such as a hospital dental clinic.

KEY: <, less than; ≥, greater than or equal to. The patient’s blood pressure is determined by the higher value for either the systolic or diastolic blood pressure.[48]

Modified from Pickett FA, Gurenlian JR. *The Medical History: Clinical Implications and Emergency Prevention in Dental Settings*. Baltimore, MD: Lippincott & Wilkins, 2005, p. 9.

Ready Reference 10-5. Assessing Pediatric Patients

Age	**Keys to Successful Interaction**	**Characteristics**
Preschooler (3–6 years)	• Explain actions using simple language. • Tell child what will happen next. • Tell child if something will hurt. • Distract child with a story. • Praise good behavior.	• Normally alert, active • Can sit still on request • Can cooperate with the assessment • Understands speech • Will make up explanations for anything not understood
School-age child (6–12 years)	• Explain actions using simple language. • Explain procedure immediately before performing. • Let child make treatment choices when possible.	• Will cooperate if trust is established • Wants to participate and retain some control

	• Allow child to participate in exam.	
Adolescent (12–17 years)	• Explain the process as to an adult. • Treat the adolescent with respect. • Encourage questions.	• Able to make decisions about care • Has clear concepts of future

Ready Reference 10-6. Factors Affecting the Accuracy of Blood Pressure Measurement

- **Time of day**—blood pressure readings are usually lowest in the morning and can increase by as much as 10 mm Hg later in the day.
- **Position**—blood pressure generally is lower when a person is lying down, as compared to when sitting or standing.
- **Arm**—there are pressure differences of more than 10 mm Hg between the arms in 6% of hypertensive patients.
- **Eating**—blood pressure readings usually are slightly higher after a meal, especially if the meal is high in salt content.
- **Exercise**—strenuous activity will temporarily increase the systolic blood pressure.
- **Stress**—anxiety, fear, or pain will temporarily raise a person’s blood pressure.

Ready Reference 10-7. Causes of Inaccuracies in Blood Pressure Measurement

Problem	**Result**	**Solution**
Equipment		
Stethoscope earpieces plugged	Difficulty hearing sounds	Clean earpieces
Earpieces fit poorly	Distorted sounds	Angle earpieces forward
Aneroid needle not at zero	Inaccurate reading	Recalibrate gauge
Bladder too narrow for arm	Inaccurate high reading	Bladder 80% of circumference
Bladder too wide for arm	Inaccurate low reading	Use appropriate cuff size
Faulty valve	Difficulty inflating cuff	Replace equipment
Leaky tubing or bulb	Inaccurate reading	Replace equipment
Patient position		
Patient arm not at heart level	Inaccurate readings	Position patient with the antecubital fossa at mid-sternum
Patient legs	Inaccurate high	Legs supported

dangling	reading	
Back unsupported	Inaccurate high reading	Support back
Cuff placement		
Cuff wrapped too loosely	Reading too high	Rewrap more snugly
Applied over clothing	Inaccurate reading	Remove arm from sleeve
Amplifying device		
Amplifying device not in contact with skin	Extraneous noise	Place amplifying device correctly
Amplifying device applied too firmly	Diastolic reading too low	Place amplifying device correctly
Amplifying device not over artery	Sounds difficult to hear	Place amplifying device over palpated artery
Amplifying device touching tubing or cuff	Extraneous noise	Place below edge of cuff
Failure to palpate brachial pulse	Underestimation of systolic pressure	Routinely check systolic pressure by palpation first
Pressure/inflation		
Inflation level too high	Patient discomfort	Inflate to 30 mm Hg above palpatory

		blood pressure
Inflation level too low	Underestimation of systolic pressure	Inflate to 30 mm Hg above palpatory blood pressure
Inflating cuff too slowly	Patient discomfort; overestimation of diastolic pressure	Inflate the cuff as rapidly as possible
Cuff pressure released too fast	Underestimation of systolic pressure; overestimation of diastolic pressure	Release pressure no faster than 2 mm Hg per second
Cuff pressure released too slowly	Congestion of blood in forearm; sounds difficult to hear	Remove cuff; ask patient to elevate the arm and then open and close the fist several times
Readings		
Rounding off readings to 0 or 5	Inaccurate readings	Record to nearest 2 mm Hg
Intra-arm difference	Pressure differences of more than 10 mm Hg between arms	Initially, measure BP in both arms; use arm with higher reading at subsequent appointments

Ready Reference 10-8. Equipment Maintenance

GENERAL MAINTENANCE

- Check the cuff for any breaks in stitching or tears in fabric.
- Check the tubing for cracks or leaks, especially at connections.
- Look to see that the aneroid needle on the gauge is at zero.

MARKING THE CUFF

Unfortunately, not all manufacturers are using the same guidelines to mark blood pressure cuffs. Many cuffs are marked incorrectly; therefore, you will have to correctly mark each cuff.

- The center of the bladder should be positioned over the brachial artery. Locate the center by folding the bladder in half.
- Mark the middle with an "x."
- This is where the cuff should cross the brachial pulse.

CALIBRATING AN ANEROID MANOMETER

The aneroid manometer—because of its design—is prone to mechanical problems that can affect its accuracy. Jolts and bumps that occur during everyday use affect accuracy over time, usually resulting to false low readings.[20] Aneroid gauges require regular calibration and checks for common defects such as non-zeroed gauges, cracked faceplates, or defective rubber tubing.[16] The needle of the aneroid gauge should rest at the zero point before the cuff is inflated and return to zero when the cuff is deflated.

Aneroid manometers should be handled gently to avoid decalibration and require routine maintenance. Every 6 months, the accuracy of the aneroid gauge should be checked at different pressure levels by connecting it with a Y-piece (Fig. 10-23) to the tubing of a standardized mercury column manometer.[18,20]

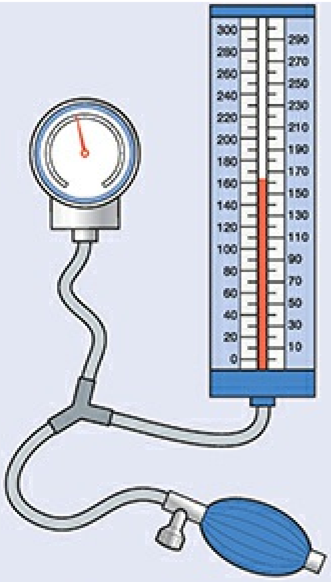


FIGURE 10-23 **Calibration of an aneroid manometer.** A Y-tube is used to calibrate the aneroid manometer with a mercury manometer.

Ready Reference 10-9. Internet Resources: Blood Pressure

- **http://jama.jamanetwork.com/article.aspx?articleid=1791497**
  This link provides access to the 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report: From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8).
- **http://www.nhlbi.nih.gov/files/docs/resources/heart/hbp_ped.pdf**
  The Fourth Report on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents on the National Heart, Lung, and Blood Institute's website
- **http://www.abdn.ac.uk/medical/bhs**
  Recommendations on blood pressure measurement on the British Hypertension Society website
- **http://www.ash-us.org/documents/ASH_ISH-Guidelines_2013.pdf**
  This link provides access to the Clinical Practice Guidelines for

the Management of Hypertension in the Community: A Statement by the American Society of Hypertension and the International Society of Hypertension

- **http://www.bhf.org.uk/heart-health/conditions/high-blood-pressure.aspx**

The British Heart Foundation website has information for patients on what blood pressure reading numbers mean and what causes high blood pressure.

Ready Reference 10-10. Summary Reports Related to Interpreting Blood Pressures

The interpretation of blood pressures and the need for treatment of patients with high blood pressures is under constant scrutiny because of the high level of importance of this topic to both patients and clinicians and because of the continuing research related to this topic. Over the last several years, there have been reports published in the United States and in Europe, which attempt to make clinical sense of available evidence related to this critical topic.

There are three primary summary reports that have been published since 2013:

1. The Eighth Joint National Committee guideline published in the United States and referred to as the JNC 8 Guideline[49]
2. Clinical Practice Guidelines for the Management of Hypertension in the Community: A Statement by the American Society of Hypertension and the International Society of Hypertension[50]
3. The European Society of Hypertension (ESH) and the European

Society of Cardiology (ESC) guidelines for the management of hypertension (referred to as ESH/ESC Guidelines for the Management of Arterial Hypertension)[51]

These published guidelines differ in certain respects such as how to interpret blood pressures in elderly patients and what blood pressure goals should be used for the treatment of elderly patients. These summary reports have been drawn from somewhat different data sets, so these differences may be understandable. In spite of any differences, there appears to be agreement that for the majority of patients, the upper limits of systolic/diastolic pressures that should trigger further diagnostic thought remain at 140/90 mm Hg. Because these reports have received some criticism, the careful clinician should expect more publications and clarifications related to these critical topics over the next several years.

SECTION 7 • The Human Element

The Man Behind Manual Blood Pressure Technique

RUSSIAN PHYSIOLOGIST NIKOLAI KOROTKOFF

With the following words, spoken to in an address to the Imperial Military Academy in 1905, Russian physiologist Nikolai Korotkoff introduced the classic technique of obtaining systolic and diastolic blood pressure with the use of a sphygmomanometer and stethoscope.

"The sleeve of Riva-Rocci is put on the middle third of the arm; the pressure in this sleeve rises rapidly until the circulation below this sleeve stops completely. At first, there are no sounds whatsoever. As the mercury in the manometer drops to a certain height, there appear the first short or faint tones, the appearance of which indicates that part of the pulse wave of the blood stream has passed under the sleeve. Consequently, the reading on the manometer when the first sound appears corresponds to the maximum blood pressure; with the further fall of the mercury in the manometer, there are heard systolic pressure murmurs which become again sounds (secondary). Finally, all sounds disappear. The time of the disappearance of the sounds indicates the free passage or flow of the blood stream; in other words, at the moment of the disappearance or fading out of the sounds, the minimum blood pressure in the artery has surpassed the pressure in the sleeve. Consequently, the reading of the manometer at this time corresponds to the minimum blood pressure." Lewis WH. The evolution of clinical sphygmomanometry. *Bull N Y Acad Med*. 1941;17(11):871–881.

Through the Eyes of a Student

THE IMPORTANCE OF VITAL SIGN ASSESSMENT

Just a few weeks ago, I saw Mrs. P., an 81-year-old patient for her fourth appointment. Mrs. P. is under the care of a physician for blood pressure control and reported taking Toporol 25 mg/day and Prevacid. She had recently been taken off of potassium and had a recent history of low blood pressure. Her blood pressure was 132/92 mm Hg. I double checked the blood pressure reading to make sure it was accurate. I was a bit concerned about these readings since her blood pressure had ranged from 118/80 mm Hg to 122/78 mm Hg on her other three visits. I asked Mrs. P. how she has been feeling and she said that she was having a feeling of pressure in her chest. I discussed the blood pressure reading and her symptoms with the dentist. The dentist consulted with her physician who requested that EMS transport her to the hospital.

On the way to the hospital, Mrs. P. fainted in the ambulance. Medical tests showed that she had a 96% blockage in one carotid artery and 60% blockage in the other. This experience taught me that it really is important to take vital signs seriously. It is also important to check today's readings with prior readings to look for changes.

Charles, student,
Catawba Valley Community College

Ethical Dilemmas

PATIENT STARTING A NEW JOB

Mr. Lester Evans, one of your favorite patients, is scheduled with you at 11:00 for his 4-month recall appointment. Mr. Evans has been a patient in the practice for approximately 10 years. As you seat him in your chair, he tells you that he is leaving his present job and will be starting new employment next week. He wants to make sure that you can complete all of his treatments today, as he will not have any time off in the near future.

You take Mr. Evans' vital signs prior to beginning treatment and record his blood pressure as 195/110 mm Hg. His other vital signs are within normal limits. You ask him how he is feeling, and he states that he feels fine. You wait 5 minutes, chatting casually with him, before you repeat his blood pressure assessment. His second reading is 190/110 mm Hg.

1. How should you proceed with Mr. Evans's appointment today?
2. What recommendations can you suggest for Mr. Evans?
3. What treatment modifications can you employ for Mr. Evans' future dental treatment?
4. Because Mr. Evans' schedule is tight, is it appropriate to treat him today and address his blood pressure issue at his next visit? Why or why not?

TENSION VERSUS HYPERTENSION

Mrs. Edwina Carl is a 73-year-old patient who first came to your dental practice 5 years ago when she moved to a retirement community near your office. At that time, you noted that Mrs. Carl’s blood pressure was quite elevated, and your dental team referred her to a physician for a medical exam. She was diagnosed with hypertension and was placed on a blood pressure medication by the physician. Since that time, her blood pressure has remained normal as measured at each of her biannual dental appointments.

Today, Mrs. Carl is back for a routine preventive dental appointment, but you again note that her blood pressure is quite elevated. During your discussion with Mrs. Carl, she tells you that she has been feeling a lot of “tension” lately because of the many changes being made in her retirement community. She decided to stop taking her blood pressure medication for her hypertension and instead started managing her hypertension through relaxation techniques that she has recently studied.

Vital Signs

Name	Edwina Carl	Date	3/15/XX
Temperature	95.8° F (37.8° C)	Pulse	54
Respiratory rate	15	Blood pressure	170/102
Tobacco use	Never		

Case Question for Mrs. Carl

1. What could have prompted Mrs. Carl’s mistake in equating her diagnosis of “hypertension” with increased levels of tension or stress from changes in her retirement living community?

2. What changes in biomedical communications from health and dental care professionals might have resulted in a better understanding of her medical condition and a more favorable health outcome for Mrs. Carl?

English-to-Spanish Phrase List

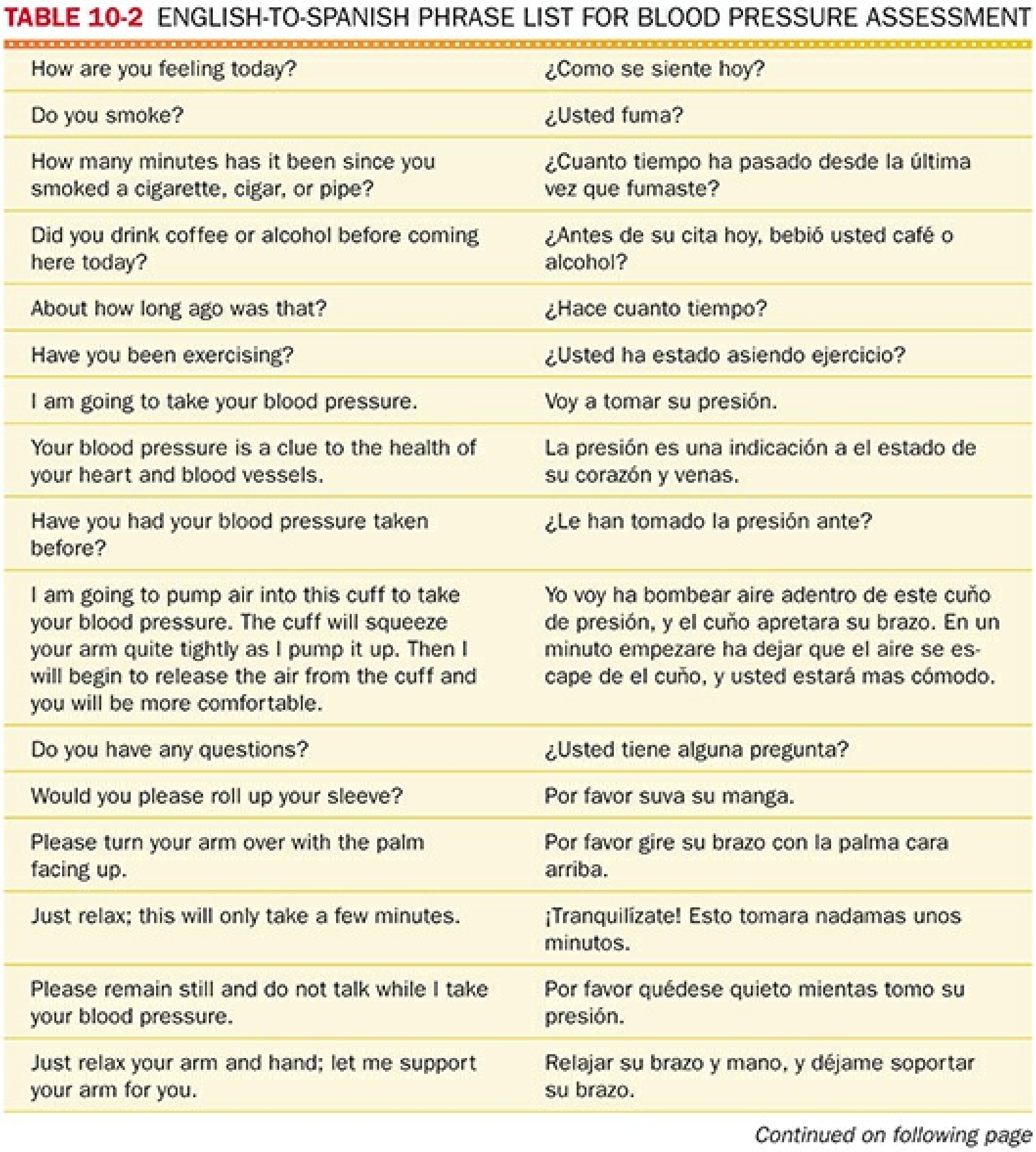
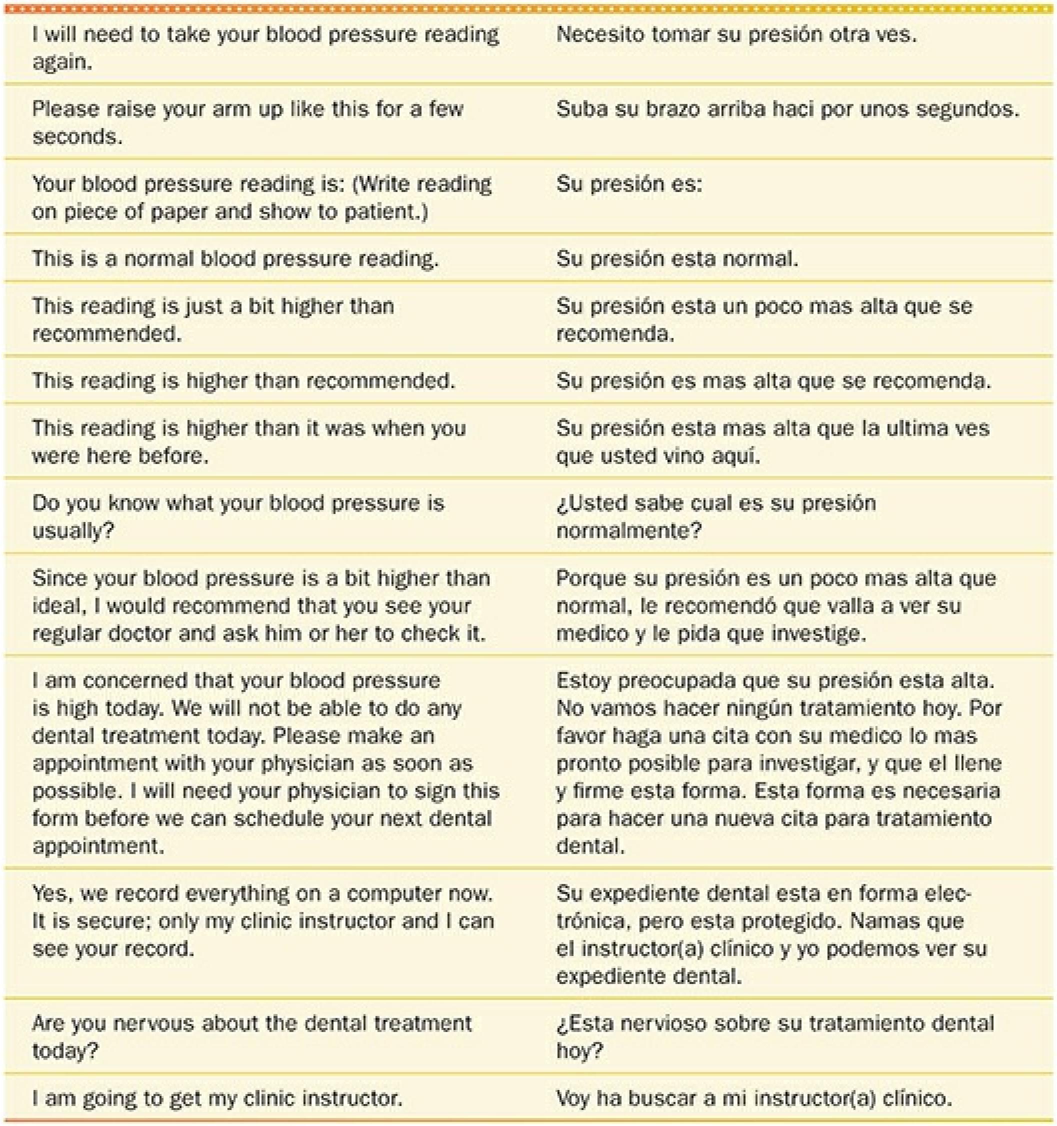


TABLE 10-2 ENGLISH-TO-SPANISH PHRASE LIST FOR BLOOD PRESSURE ASSESSMENT

How are you feeling today?	¿Como se siente hoy?
Do you smoke?	¿Usted fuma?
How many minutes has it been since you smoked a cigarette, cigar, or pipe?	¿Cuanto tiempo ha pasado desde la última vez que fumaste?
Did you drink coffee or alcohol before coming here today?	¿Antes de su cita hoy, bebió usted café o alcohol?
About how long ago was that?	¿Hace cuanto tiempo?
Have you been exercising?	¿Usted ha estado asiendo ejercicio?
I am going to take your blood pressure.	Voy a tomar su presión.
Your blood pressure is a clue to the health of your heart and blood vessels.	La presión es una indicación a el estado de su corazón y venas.
Have you had your blood pressure taken before?	¿Le han tomado la presión ante?
I am going to pump air into this cuff to take your blood pressure. The cuff will squeeze your arm quite tightly as I pump it up. Then I will begin to release the air from the cuff and you will be more comfortable.	Yo voy ha bombear aire adentro de este cuño de presión, y el cuño apretara su brazo. En un minuto empezare ha dejar que el aire se escape de el cuño, y usted estará mas cómodo.
Do you have any questions?	¿Usted tiene alguna pregunta?
Would you please roll up your sleeve?	Por favor suva su manga.
Please turn your arm over with the palm facing up.	Por favor gire su brazo con la palma cara arriba.
Just relax; this will only take a few minutes.	¡Tranquilízate! Esto tomara nadamas unos minutos.
Please remain still and do not talk while I take your blood pressure.	Por favor quédese quieto mientas tomo su presión.
Just relax your arm and hand; let me support your arm for you.	Relajar su brazo y mano, y déjame soportar su brazo.

Continued on following page

TABLE 10-2 ENGLISH-TO-SPANISH PHRASE LIST FOR BLOOD PRESSURE ASSESSMENT (Continued)



I will need to take your blood pressure reading again.	Necesito tomar su presión otra ves.
Please raise your arm up like this for a few seconds.	Suba su brazo arriba haci por unos segundos.
Your blood pressure reading is: (Write reading on piece of paper and show to patient.)	Su presión es:
This is a normal blood pressure reading.	Su presión esta normal.
This reading is just a bit higher than recommended.	Su presión esta un poco mas alta que se recomenda.
This reading is higher than recommended.	Su presión es mas alta que se recomenda.
This reading is higher than it was when you were here before.	Su presión esta mas alta que la ultima ves que usted vino aquí.
Do you know what your blood pressure is usually?	¿Usted sabe cual es su presión normalmente?
Since your blood pressure is a bit higher than ideal, I would recommend that you see your regular doctor and ask him or her to check it.	Porque su presión es un poco mas alta que normal, le recomendó que valla a ver su medico y le pida que investige.
I am concerned that your blood pressure is high today. We will not be able to do any dental treatment today. Please make an appointment with your physician as soon as possible. I will need your physician to sign this form before we can schedule your next dental appointment.	Estoy preocupada que su presión esta alta. No vamos hacer ningún tratamiento hoy. Por favor haga una cita con su medico lo mas pronto posible para investigar, y que el llene y firme esta forma. Esta forma es necesaria para hacer una nueva cita para tratamiento dental.
Yes, we record everything on a computer now. It is secure; only my clinic instructor and I can see your record.	Su expediente dental esta en forma electrónica, pero esta protegido. Namas que el instructor(a) clínico y yo podemos ver su expediente dental.
Are you nervous about the dental treatment today?	¿Esta nervioso sobre su tratamiento dental hoy?
I am going to get my clinic instructor.	Voy ha buscar a mi instructor(a) clínico.

SECTION 8 • Practical Focus—Fictitious Patient Cases for Vital Signs Modules

DIRECTIONS

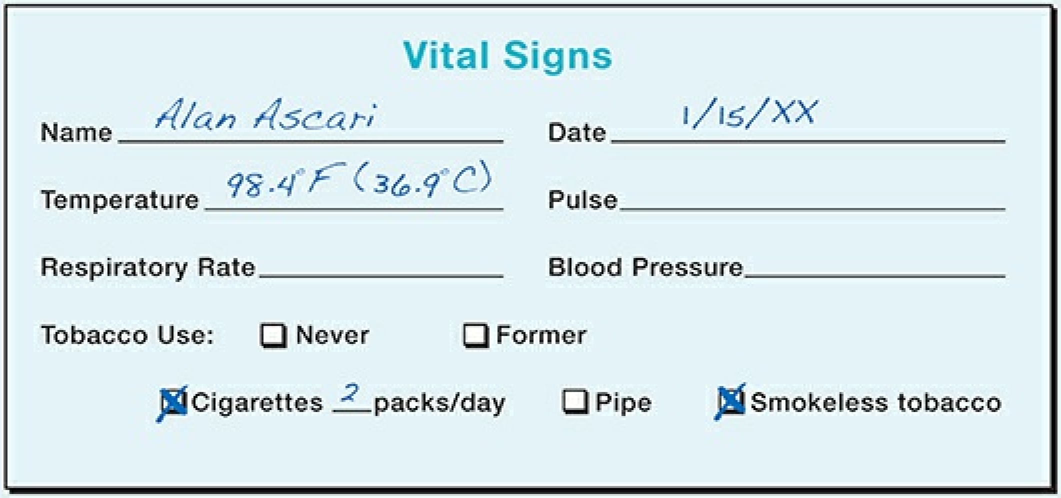
- The fictitious patient cases in this module involve patients A to E. In a clinical setting, you will gather additional information about your patient with each assessment procedure that you perform. In a similar manner, you will learn additional assessment findings for patients A to E in upcoming Modules 11 to 15.

- In answering the case questions in this module, you should take into account the health history and over-the-counter/prescription drug information that was revealed for each patient in Module 5, Medical History.

FICTITIOUS PATIENT CASE A: MR. ALAN ASCARI

Synopsis of Information about Mr. Ascari

Mr. Ascari is a new patient in the dental office. You notice that Mr. Ascari seems to be slightly impatient. As you count his pulse rate, he suddenly removes the thermometer from his mouth and says, "I have had enough of this! First, you ask me all those questions about my health and now, this. I just came in to have my teeth checked, not for a medical exam! Can't you just check my teeth and get it over with?"



Vital Signs

Name Alan Ascari
Date 1/15/XX
Temperature 98.4°F (36.9°C)
Pulse
Respiratory Rate
Blood Pressure
Tobacco Use: ☐ Never ☐ Former
☒ Cigarettes 2 packs/day ☐ Pipe ☒ Smokeless tobacco

Case Questions for Mr. Ascari

1. How do you think Mr. Ascari is feeling or thinking concerning the health history and vital signs assessment? Why might he feel this way?
2. How would you respond to Mr. Ascari's comments? How would you

phrase your response to him?

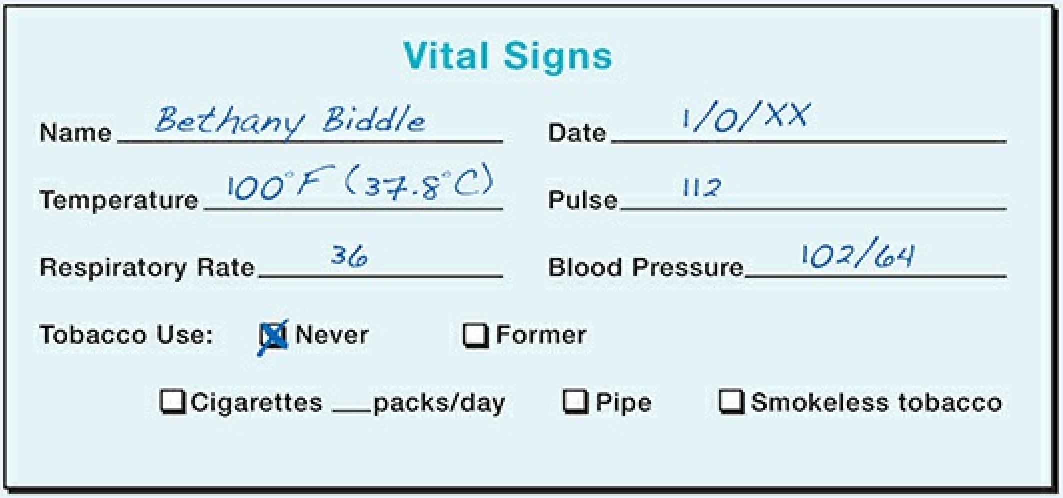
3. Do you think that it is important to complete the vital signs assessment on Mr. Ascari before proceeding with treatment? Or, could you skip this procedure just this once since he is a new patient in the office?

FICTITIOUS PATIENT CASE B: BETHANY BIDDLE

Synopsis of Information about Bethany Biddle

Bethany Biddle is a physically active 9-year-old who has been a patient in the dental office since she was 3 years old. Bethany enjoys coming to have her teeth cleaned. She is interested in dental hygiene and always asks a lot of questions about the care that dental hygienists provide.

Bethany hurried into the office 10 minutes late for her appointment. She tells you that her mother was late picking her up at school. Concerned about being late, she ran from the parking lot to the dental office. Remembering that it is 90° F outside, you can understand why she is perspiring and slightly out of breath. Worried about falling behind schedule, you quickly take Bethany's vital signs.



Vital Signs

Name Bethany Biddle
Date 1/0/XX
Temperature 100°F (37.8°C)
Pulse 112
Respiratory Rate 36
Blood Pressure 102/64
Tobacco Use: ☒ Never ☐ Former
☐ Cigarettes __packs/day ☐ Pipe ☐ Smokeless tobacco

Case Questions for Bethany Biddle

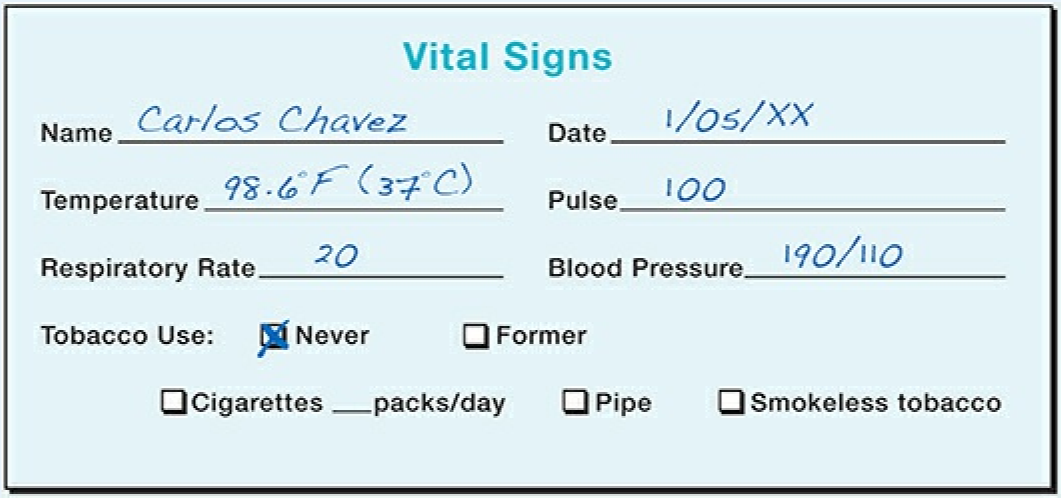
1. At her last four appointments, Bethany's vital signs were all within

normal ranges. Identify possible interpretations of Bethany's vital signs at today's appointment. Are you concerned about these findings, and what if any action would you take?

2. Is there anything about the way in which the vital signs assessment was conducted that could have had an impact on the findings?
3. How would you determine if dental treatment is contraindicated for Bethany? If so, what words would you use to explain the contraindications to Bethany?
4. What will you do next?

FICTITIOUS PATIENT CASE C: MR. CARLOS CHAVEZ

Synopsis of Information about Mr. Chavez



Vital Signs

Name Carlos Chavez

Date 1/05/XX

Temperature 98.6°F (37°C)

Pulse 100

Respiratory Rate 20

Blood Pressure 190/110

Tobacco Use: ☒ Never ☐ Former

☐ Cigarettes __packs/day ☐ Pipe ☐ Smokeless tobacco

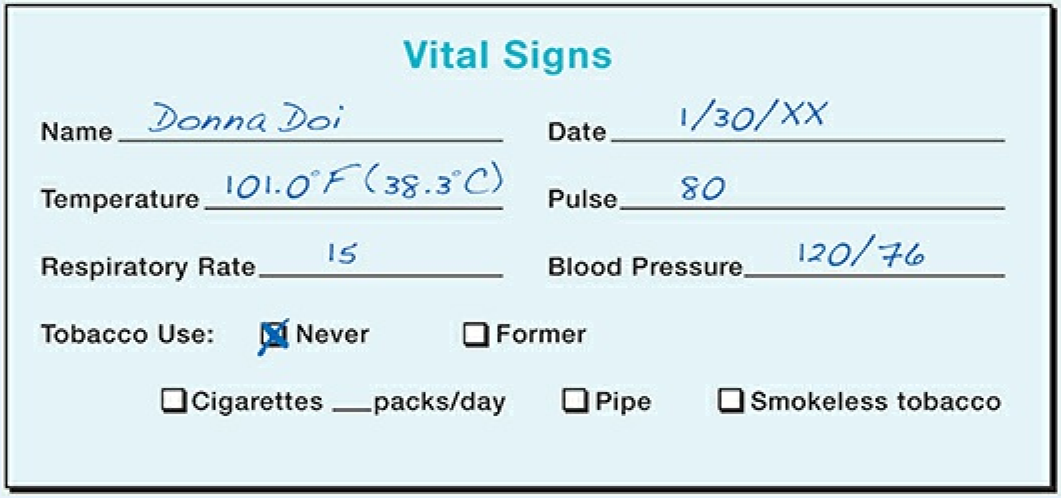
Case Questions for Mr. Chavez

1. Does Mr. Chavez have any contraindications for dental treatment? If so, what are your concerns?
2. What information would you provide to Mr. Chavez about his vital signs readings? How would you phrase your explanation?
3. After discussing his vital signs, what would you do next?

FICTITIOUS PATIENT CASE D: MRS. DONNA DOI

Synopsis of Information about Mrs. Doi

As you seat Mrs. Doi in the dental chair, she tells you that she is grateful for an excuse to get out of the house today. Her 6-year-old daughter, Melanie, has been home sick with a high fever and “strep throat” for the last several days.



Vital Signs

Name Donna Doi

Date 1/30/XX

Temperature 101.0°F (38.3°C)

Pulse 80

Respiratory Rate 15

Blood Pressure 120/76

Tobacco Use: ☒ Never ☐ Former

☐ Cigarettes __packs/day ☐ Pipe ☐ Smokeless tobacco

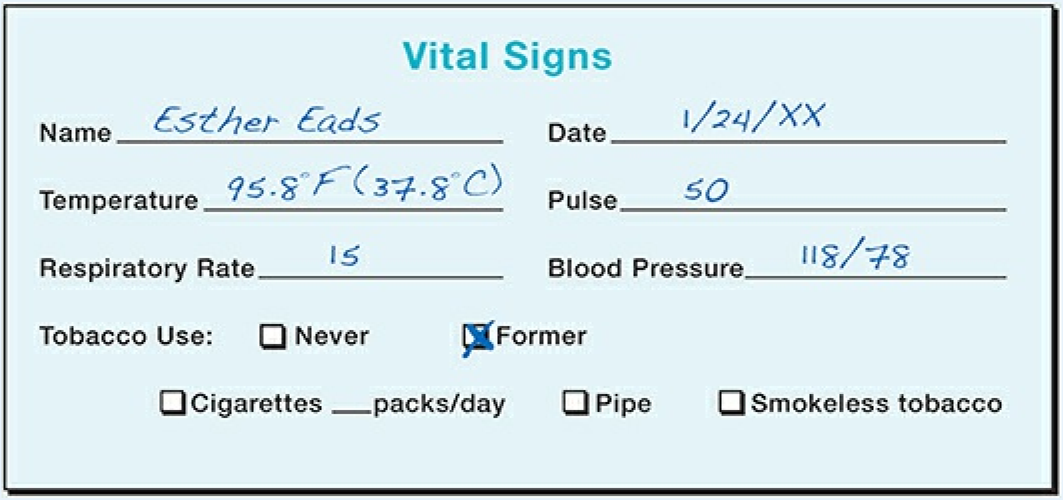
Case Questions for Mrs. Doi

1. Are Mrs. Doi’s vital signs within normal ranges?
2. What information would you give Mrs. Doi about her vital signs? How would you phrase your explanation?
3. You note that Mrs. Doi’s temperature has been 97.7° F at her last three visits. When you inquire how she is feeling today, she replies, “I was very tired this morning and my throat feels dry and scratchy.” Are you concerned about Mrs. Doi’s elevated temperature reading? Can you think of any possible causes for her elevated temperature?
4. What will you do next?
5. Does Mrs. Doi have any contraindications for dental treatment? If so, what words would you use to explain these contraindications to Mrs. Doi?

FICTITIOUS PATIENT CASE E: MS. ESTHER EADS

Synopsis of Information about Ms. Eads

Ms. Eads has been a patient in the dental practice for 30 years; she is 79 years of age. Ms. Eads is a retired teacher and is still very active for her age. She enjoys taking day trips with the seniors group at her church. Ms. Eads is here today for a routine checkup.



Vital Signs

Name Esther Eads
Date 1/24/XX
Temperature 95.8°F (37.8°C)
Pulse 50
Respiratory Rate 15
Blood Pressure 118/78
Tobacco Use: ☐ Never ☒ Former
☐ Cigarettes __packs/day ☐ Pipe ☐ Smokeless tobacco

Case Questions for Ms. Eads

1. Are all of Ms. Eads' vital signs within normal range? What information would you use in determining if her findings today are normal for her?
2. Does Ms. Eads have any contraindications for dental treatment? If so, what words would you use in explaining the contraindications to Ms. Eads?

SECTION 9 • **Skill Check**

Technique Skill Checklist: Blood Pressure Assessment

Student: ____________________________ Evaluator: ____________________________

Date: ____________________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Determines that the patient has not had alcohol, tobacco, caffeine, or performed vigorous exercise within 30 minutes of the blood pressure assessment. After seating patient, allows the patient to relax for at least 5 minutes prior to assessment.		
Selects an appropriate arm—no breast cancer surgery involving lymph node removal, cast, injured limb, or other compromising factor.		
Squeezes the bladder to completely deflate the cuff. Selects a cuff with an appropriate bladder width and length matched to the size of the patient's upper arm.		
Asks patient to roll up sleeve. Determines that rolling up the sleeve does not create a tight roll of cloth around the upper arm.		
Asks patient to position arm with the palm of the hand upward.		
Positions the cuff with the lower edge 1–2 in (2–3 cm) above the elbow with the midline of the bladder centered over the brachial artery. Wraps the cuff smoothly and snugly around the arm and fastens it securely.		

Places the manometer so that the mercury column or aneroid dial is easily visible and the tubing from the cuff is unobstructed.		
Places the stethoscope earpieces into the ear canals with the earpieces angled forward.		
Supports the patient’s arm by holding it at the elbow so that the antecubital fossa is level with the patient’s mid-sternum. The patient’s arm should remain somewhat bent and completely relaxed.		
Palpates the brachial pulse with the fingertips. Closes the valve. Inflates the cuff rapidly to 70 mm Hg and then increases the pressure by increments of 10 mm Hg until the pulse disappears. Notes the pressure reading where the pulse disappears.		
Opens the valve, deflates the cuff rapidly, leaving it in place on the arm, and waits 15 seconds.		
Gently places the amplifying device over the pulse—just above the antecubital fossa toward the inner aspect of the arm. Holds the device in place, making sure that it makes contact with the skin around its entire circumference.		
Closes the valve and holds the bulb so that it is easy to reach the valve at the top. Briskly squeezes the bulb to rapidly inflate the bladder to a pressure 30 mm Hg above the palpatory estimate.		
Opens the valve so that the pressure drops no faster than 2 mm Hg per second.		
Pays careful attention to sounds heard through the		

stethoscope. Notes the point at which the first clear tapping sound occurs.		
Continues releasing the pressure slowly at a rate of 2 mm Hg per second. Notes the point at which the sounds disappear.		
Continues releasing the pressure slowly at a rate of 2 mm Hg per second for at least another 10 mm Hg. Then allows the remaining air to escape rapidly.		
Records the two numbers as a fraction—systolic over diastolic—to the closest 2 mm Hg. Records the arm and the patient's position. Records the auscultatory gap, if present.		
Obtains a systolic reading within +/−2 mm Hg of the evaluator's reading. Obtains a diastolic reading within +/−2 mm Hg of the evaluator's reading.		
Removes the cuff. Cleans and stores the equipment so that it is ready for use.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Role-Play for Blood Pressure

Student: ______________________ Evaluator: ______________________

Date: ______________________

Roles:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point and each **U** equals 0 point.

CRITERIA:	S	E
Explains the blood pressure procedure. If the patient has never had a blood pressure assessment, explains that some minor discomfort is caused by the inflation of the cuff.		
Upon completion of the procedure, reports the findings to the patient and explains whether the readings are normal or outside the normal range and the significance of these readings.		
Encourages patient questions before and after the blood pressure assessment.		
Answers the patient's questions fully and accurately.		
Gains the patient's trust and cooperation.		
Communicates with the patient at an appropriate		

level and avoids dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment. Uses correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

thePoint NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios can be found at http://thepoint.lww.com/GehrigPAT4e.

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MODULE
11

TOBACCO CESSATION COUNSELING

thePoint For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

Consumer survey data collected by the American Dental Association (ADA) shows that half of all smokers visit the dentist annually. A full 75% of these smokers indicate a willingness to hear advice on quitting from dental health care providers. In a 1992 policy statement, the ADA urges dental health care providers to become fully informed about tobacco cessation intervention techniques and educate their patients in methods for overcoming tobacco addiction.

This module is designed to assist dental health care providers in improving their knowledge of tobacco cessation techniques and resources, including:

- Understanding the health risks of tobacco use
- Understanding the health benefits of not using tobacco
- Providing tobacco cessation counseling

MODULE OUTLINE

SECTION 1 **Health Effects of Tobacco Use**

Smoking: The Leading Preventable Cause of Illness and Death
Smoking as a Risk Factor for Systemic Disease
It’s Never Too Late to Quit
Medical Health Risks of Secondhand Smoke
Medical Health Risks of Thirdhand Smoke
Electronic Cigarettes
Hookah Water Pipes
Smokeless Tobacco

SECTION 2 **Harmful Properties of Tobacco**

Chemical Components of Tobacco Products
Addictive Properties of Nicotine
Tobacco Addiction

SECTION 3 **Why Should Dental Health Care Providers Intervene?**

Smoking and the Periodontium

SECTION 4 **Guidelines for Tobacco Cessation Counseling**

The Clinical Practice Guideline
One-on-One Education Is Needed
Tobacco Cessation Counseling Works
The Five A’s Model
Quitlines
Withdrawal Symptoms
Quit Rates and Implications

SECTION 5 **Peak Procedure: Tobacco Cessation**

Procedure 11-1. Tobacco Cessation Counseling

SECTION 6 **Patient Education Resources**

SECTION 7 **The Human Element**
Through the Eyes of a Clinician
Ethical Dilemma
Through the Eyes of a Patient

SECTION 8 **Practical Focus—Fictitious Patient Case for Tobacco Cessation**

SECTION 9 **Skill Check**

KEY TERMS

Risk factors • Perioral rhytides • Secondhand smoke • Thirdhand smoke • Electronic cigarettes • Vaping • Hookah • Smokeless tobacco • Chewing tobacco • Snuff • Carcinogen • Addiction • Five A's Model • Quitlines • Withdrawal symptoms

OBJECTIVES

- Explain why tobacco cessation counseling is a valuable part of patient care in the dental setting.
- Value the importance of providing tobacco cessation counseling as a routine part of the dental hygiene appointment.
- Explain a strategy for providing tobacco cessation counseling as a routine part of the dental hygiene appointment.
- Give examples of diseases associated with or linked to tobacco use.
- Give examples of oral diseases and conditions associated with tobacco use.
- Differentiate which components of tobacco/cigarette smoke are (1) addicting and (2) carcinogenic.
- Discuss the hazards of secondhand and thirdhand smoke.
- Demonstrate knowledge of tobacco cessation counseling by applying information from this module to the fictitious patient case and the communication skills role-play at the end of this module.

SECTION 1 • Health Effects of Tobacco Use

In addition to the standard vital signs—temperature, pulse, respiration, and blood pressure—tobacco use has been suggested as the fifth vital sign.

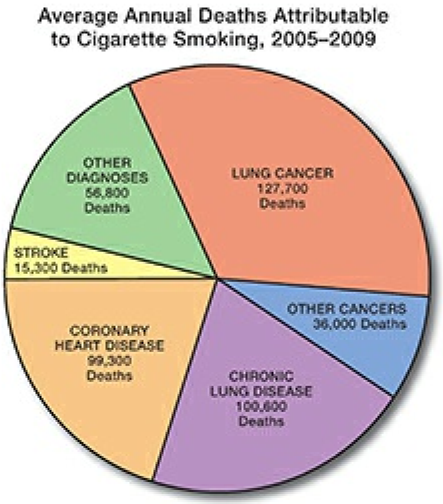
- Tobacco use is a contributing factor in many medical conditions and, in addition, increases the risk of periodontal disease. All oral health care professionals should be concerned with their patients' use of tobacco products.
- About 30% of patients in any given dental practice are current smokers.
- The regularly scheduled dental hygiene visit provides a unique opportunity to document tobacco use, relate oral health findings to a patient's use of tobacco, and provide cessation support.

Smoking: The Leading Preventable Cause of Illness and Death

Scientific knowledge about the health effects of tobacco use has increased greatly since the first Surgeon General's report published in 1964. Smoking increases the risks of numerous diseases and associated illness and death. In general, smokers have a mortality rate approximately twice that of nonsmokers. Extensive evidence links smoking to cancer, cardiopulmonary disease, and complications of pregnancy.

Tobacco use has long been identified as the leading preventable cause of illness and death; a fact established by the most substantial body of scientific knowledge ever amassed linking a product to disease.

- Tobacco claims one life every 8 seconds and kills 1 of 10 adults globally.
- Cigarette smoking is responsible for more than 480,000 deaths per year in the United States, including nearly 42,000 deaths resulting from secondhand smoke exposure. This is about 1 in 5 deaths annually, or 1,300 deaths every day (Fig. 11-1).[1]



Average Annual Deaths Attributable to Cigarette Smoking, 2005–2009

FIGURE 11-1 Annual deaths attributable to cigarette smoking. (From U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.)

- Smoking causes more deaths alone than AIDS, alcohol, accidents, suicides, homicides, fires, and drugs combined.
- Worldwide, tobacco use causes nearly 6 million deaths per year, and current trends show that tobacco use will cause more than 8 million deaths annually by 2030.[2]

Smoking as a Risk Factor for Systemic Disease

Risk factors are conditions that increase a person's chances of getting a disease (such as cancer). There is no doubt that the risk for smoking-related disease increases with the amount a person smokes. However, smoking one to four cigarettes per day is associated with a significantly higher risk of prematurely dying.[3] Cigar use causes cancer of the larynx, mouth, esophagus, and lung; emphysema; and heart disease. The bottom line is that smoking any amount harms nearly every organ of the body, damaging a smoker's overall health even when it does not cause a specific illness.

CANCER

Smoking is a known cause of multiple cancers, accounting for at least 30% of all cases of cancer and approximately 163,700 cancer deaths every year in the United States.[4]

- The types of cancer associated with tobacco use include those that affect the lung, mouth, nasal passages/nose, larynx, pharynx, breast, esophagus, stomach, pancreas, bladder, kidney, cervix, and possibly the colon and rectum, in addition to acute myelogenous leukemia.

- In particular, smoking has been linked to 90% of cases of lung cancer in males and 78% in females.[5]

CARDIOVASCULAR AND LUNG DISEASE

In addition, smoking is a known cause of at least 25% of all heart disease and strokes and no less than 90% of all chronic obstructive pulmonary disease. Smoking is a major cause of coronary artery disease, cerebrovascular disease (stroke), peripheral vascular disease, and abdominal aortic aneurysm.

- **Smoker's cough** is the chronic cough experienced by smokers because smoking impairs the lung's ability to clean out harmful material. Coughing is the body's way of trying to get rid of the harmful material in the lungs.
- **Chronic obstructive pulmonary disease** is a lung disease in which the airways in the lungs produce excess mucus resulting in frequent coughing. Smoking accounts for 80% to 90% of the risk for developing chronic obstructive pulmonary disease. Only 5% to 10% of patients with chronic obstructive pulmonary disease have never smoked.
- **Coronary artery disease**—a thickening of the coronary arteries—is the most common type of heart disease. Coronary artery disease results in a narrowing of the arteries so that the supply of blood and oxygen to the heart is restricted or blocked. Smoking is the major risk factor for coronary artery disease.
- **Peripheral vascular disease** occurs when fat and cholesterol build up on the walls of the arteries blocking the supply blood to the arms and legs.
- **Abdominal aortic aneurysm** occurs when part of the aorta—the main artery of the body—becomes weakened. If left untreated, the aorta can burst. Once thought of as an "old man's disease," this disorder has become a major killer in women as well. The disease kills 120,000 Americans a year, is the fourth leading cause of death, and is expected to be third leading cause of death by 2020.[5]

HEALTH RISKS FOR FEMALE SMOKERS

Smoking during pregnancy causes spontaneous miscarriages, low birth weight, placental abruption, fetal heart defects, and sudden infant death syndrome. Babies born to women who smoke are more likely to be premature. Women, particularly those older than 35 years of age who smoke and use birth control pills, face an increased risk for heart attack, stroke, and venous thromboembolism.

HEAD AND NECK CANCER

Smoking also significantly increases the risk of head and neck cancers (more than 500,000 people are diagnosed with these cancers every year). In general, individuals who smoke one pack per day increase their head and neck cancer risk by 11-fold and individuals who smoke two packs per day increase their risk to 25 times that of a nonsmoker.[4]

SKIN

More than 7,000 chemicals in tobacco smoke trigger the destruction of collagen and elastin in the skin—the fibers that give skin its strength and elasticity. Cigarette smoke causes unfavorable skin changes or intensifies many skin diseases including skin cancer.[6–8] Tobacco smoke additionally quickens the natural process of skin aging.[9] Even being around secondhand smoke degrades the building blocks of the skin.[8] The consequences of this destruction include sagging skin and deeper wrinkles, making a smoker look older than a nonsmoker of the same age.[8] Wrinkles develop sooner in the skin around the eyes and lips of smokers. Skin damage due to tobacco smoke is irreversible; however, further damage can be avoided by stopping smoking.[8]

Smoking delivers a one-two punch to the skin around the mouth. First, smokers use certain muscles around their lips that cause them to have deep wrinkles that nonsmokers do not (Fig. 11-2). Second, the loss of skin elasticity can lead to deep lines around the lips, **perioral rhytides** (Fig. 11-3).

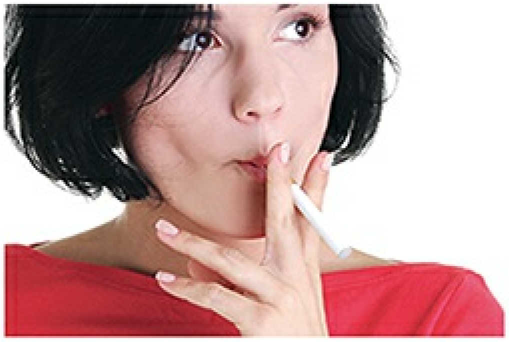


FIGURE 11-2 **The smoker's pucker.** Smokers use certain muscles around their lips—that nonsmokers do not—that cause them to develop deep wrinkles.

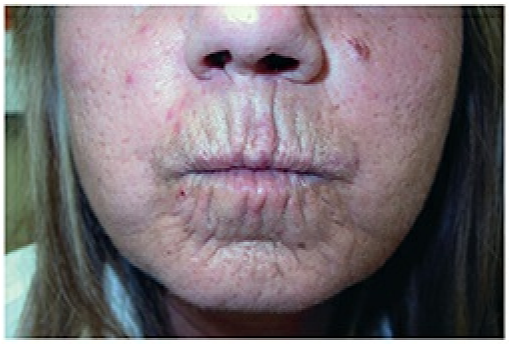


FIGURE 11-3 **Deep perioral wrinkles.** This 28-year-old woman has deep lines around her lips associated with smoking since her preteen years.

OTHER CONDITIONS

Other conditions that affect smokers more than nonsmokers include cataracts, macular degeneration, poor dental health, low bone density, early menopause, gastroesophageal reflux, high blood pressure, type 2 diabetes, psoriasis, erectile dysfunction, infertility, and fire-related injury or death.

It's Never Too Late to Quit

For patients who use tobacco, one of the most important messages is that it is never too late to quit.

- Even for long-term smokers, quitting smoking carries major and immediate health benefits for men and women of all ages (Fig. 11-4). Benefits apply to healthy smokers and to smokers already suffering from smoking-related disease.

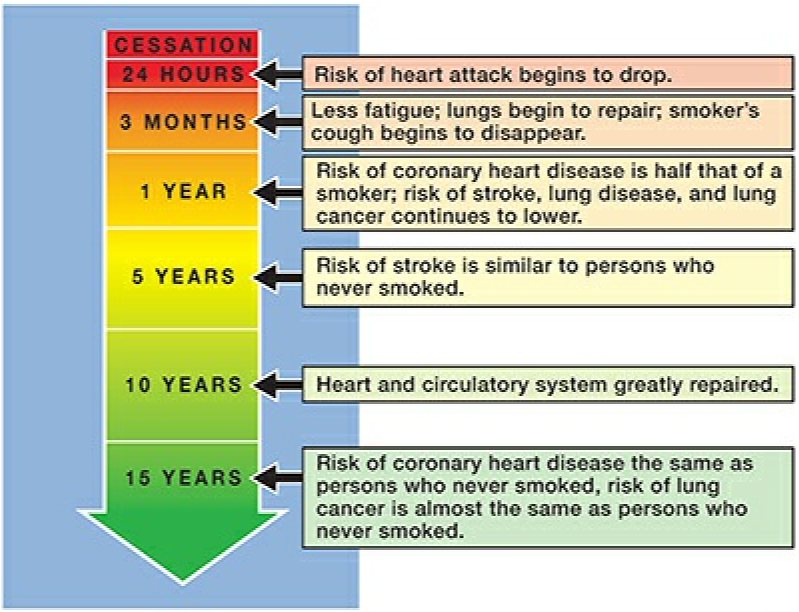

CESSATION
24 HOURS
Risk of heart attack begins to drop.
3 MONTHS
Less fatigue; lungs begin to repair; smoker's cough begins to disappear.
1 YEAR
Risk of coronary heart disease is half that of a smoker; risk of stroke, lung disease, and lung cancer continues to lower.
5 YEARS
Risk of stroke is similar to persons who never smoked.
10 YEARS
Heart and circulatory system greatly repaired.
15 YEARS
Risk of coronary heart disease the same as persons who never smoked, risk of lung cancer is almost the same as persons who never smoked.

FIGURE 11-4 **Potential health benefits of quitting.** (From U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress. A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2014.)

- Smoking cessation represents the single most important step that smokers can take to enhance the length and quality of their lives.
- Smokers who quit—even after age 63 years—start repairing their bodies right away. After only 2 weeks, lung function increases by up to 30% in most persons.

Medical Health Risks of Secondhand Smoke

Secondhand smoke is the term for tobacco smoke that is exhaled by smokers or is produced by a lighted cigarette, pipe, or cigar. Secondhand smoke contains the same harmful chemicals that smokers inhale and presents a substantial health risk to nonsmokers (Fig. 11-5). A 2006 report of the U.S. Surgeon General states that

> "There is *no* risk-free level of exposure to secondhand smoke. Nonsmokers exposed to secondhand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent. The finding is of major public health concern due to the fact that nearly half of all nonsmoking Americans are still regularly

exposed to secondhand smoke.”[10]

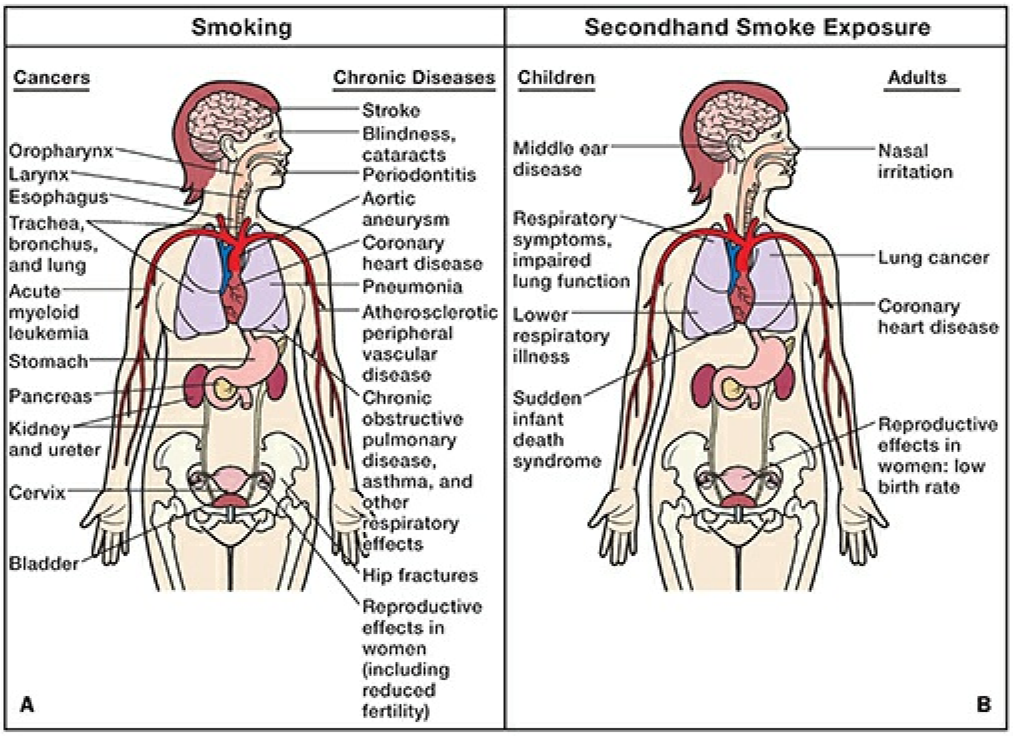

Smoking
Secondhand Smoke Exposure
Cancers
Chronic Diseases
Oropharynx
Larynx
Esophagus
Trachea, bronchus, and lung
Acute myeloid leukemia
Stomach
Pancreas
Kidney and ureter
Cervix
Bladder
Stroke
Blindness, cataracts
Periodontitis
Aortic aneurysm
Coronary heart disease
Pneumonia
Atherosclerotic peripheral vascular disease
Chronic obstructive pulmonary disease, asthma, and other respiratory effects
Hip fractures
Reproductive effects in women (including reduced fertility)
A
Children
Adults
Middle ear disease
Respiratory symptoms, impaired lung function
Lower respiratory illness
Sudden infant death syndrome
Nasal irritation
Lung cancer
Coronary heart disease
Reproductive effects in women: low birth rate
B

FIGURE 11-5 **Health risks of smoking and secondhand smoke exposure. A.** The health risks of smoking. **B.** The health risks of secondhand smoke exposure. (U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006).

1. **Adult Nonsmokers.** Secondhand smoke exposure is linked to an increase in certain types of cancer among nonsmokers.
   a. There are clear associations between secondhand smoke and cancers of the nasal sinus, cervix, breast, and bladder.
   b. Those exposed to secondhand smoke are at increased risk for cardiopulmonary problems, including decreased lung function, chronic cough, and ischemic heart disease.
   c. As many as 60,000 annual heart disease deaths in adult nonsmokers result from secondhand smoke in the United States. Approximately 3,400 lung cancer deaths per year among adult nonsmokers in the United States are linked to secondhand smoke.[1]
2. **Children and Infants**
   a. Exposed children are more likely to have reduced lung capacity,

    serious lower respiratory tract infections, severe asthma, and middle ear infections.[11]
    b. The risk for sudden infant death syndrome is higher among babies exposed to smoke, and babies born to women exposed to secondhand smoke are more likely to have low birth weight and to be premature.
    c. There is a clear link between childhood tooth decay and parental smoking.[12]

3. **Companion Animals**
    a. Cigarette smoke can cause cancer in dogs, cats, and other pets. Pets don't just inhale smoke; the smoke particles get trapped in their fur and ingested when they groom themselves.
    b. Dogs living in smoking households have a 60% greater risk of lung cancer and longer nosed dogs are twice as likely to develop nasal cancer.
    c. Cats living in smoking households are 3 times more likely to develop lymphoma, the most common type of feline cancer.
    d. In addition, secondhand smoke has been associated lung cancer in pet birds.

Medical Health Risks of Thirdhand Smoke

Thirdhand smoke—a serious and mounting health concern—is generally considered to be residual nicotine and other chemicals left on a variety of indoor surfaces by tobacco smoke.[13]

- This residue is thought to react with common indoor pollutants to create a toxic mix. This toxic mix of thirdhand smoke contains cancer-causing substances, posing a potential health hazard to nonsmokers who are exposed to it, especially children.
- Studies show that thirdhand smoke clings to hair, skin, clothes, furniture, drapes, walls, bedding, carpets, dust, vehicles, and other surfaces, even long after smoking has stopped.
- Infants, children, and nonsmoking adults may be at risk of tobacco-

related health problems when they inhale, ingest, or touch substances containing thirdhand smoke.

- Thirdhand smoke residue builds up on surfaces over time and resists normal cleaning. Thirdhand smoke cannot be eliminated by airing out rooms, opening windows, using fans or air conditioners, or confining smoking to only certain areas of a home.
- The only way to protect nonsmokers from thirdhand smoke is to create a completely smoke-free environment.

Electronic Cigarettes

Electronic cigarettes, or e-cigarettes, are battery-powered devices that provide doses of nicotine and other additives to the user in an aerosol (Fig. 11-6). They are currently unregulated by the U.S. Food and Drug Administration (FDA). While the FDA has announced that it intends to expand its jurisdiction over tobacco products to include e-cigarettes, it has not yet issued regulatory rules. Because e-cigarettes are unregulated, the agency does not have good information about them, such as the amounts and types of components and potentially harmful constituents.

FIGURE 11-6 **Electronic cigarette.** The electronic cigarette is a battery-powered device that provides doses of nicotine and other additives to the smoker in the form of an aerosol.

1. **Current Research**[14]

   - A 2009 FDA analysis of e-cigarettes from two leading brands found that the samples contained carcinogens and other hazardous chemicals, including diethylene glycol, which is found in antifreeze.
   - A report from Greek researchers found that using e-cigarettes caused breathing difficulties in both smokers and nonsmokers. A French-based

research group found that e-cigarettes contain “potentially carcinogenic elements.”
- The British Medical Association and the World Health Organization have each issued warnings about the dangers that may be associated with the smoking devices.
- Many countries have already banned sale—including Canada, New Zealand, and Australia. All of the U.S. airline companies ban use in-flight.

2. **Use.** E-cigarette use, or **vaping**, in the United States and worldwide is increasing.[15,16]
   - Current use of e-cigarettes increased among middle and high school students from 2011 to 2014. Nearly 4 of every 100 middle school students (3.9%) reported in 2014 that they used e-cigarettes in the past 30 days—an increase from 0.6% in 2011.
   - More than 13 of every 100 high school students (13.4%) reported in 2014 that they used e-cigarettes in the past 30 days—an increase from 1.5% in 2011.
   - Almost 13% of adults reported in 2014 that they had tried an e-cigarette, and about 3.7% of adults currently use e-cigarettes. Among current cigarette smokers who had tried to quit smoking in the past year, more than one-half tried an e-cigarette and 20.3% were current e-cigarette users.

Hookah Water Pipes

A **hookah** is a large water pipe with a hose used to smoke flavored tobacco (Fig. 11-7). A common misconception is that the water in the hookah removes the harmful chemicals from the tobacco smoke. Current research indicates, however, that even after passing through the water, the tobacco smoke still produces high levels of toxins including carbon monoxide and carcinogens.[17]

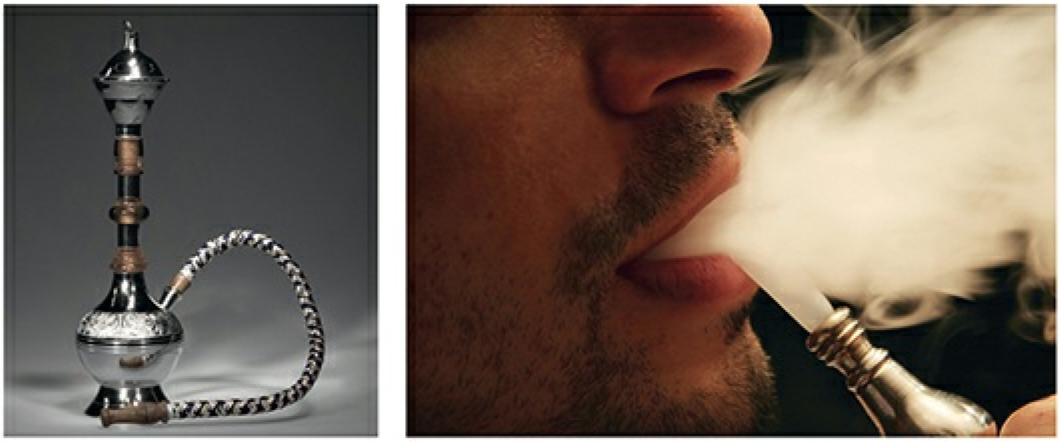


FIGURE 11-7 **Hookah.** An example of a hookah water pipe used for smoking flavored tobacco.

Smokeless Tobacco

1. **Smokeless Tobacco Products.** **Smokeless tobacco** is tobacco that is not smoked but used in another form. Smokeless tobacco was formally classified as a "known human carcinogen" by the U.S. government in 2000. ***Smokeless tobacco contains more nicotine than cigarettes.*** Snuff and chewing tobacco are the two main forms of smokeless tobacco in use in the United States and Canada.
   a. **Chewing tobacco**—also known as spit tobacco, chew, dip, and chaw—is tobacco cut for chewing.
   b. **Snuff** is a smokeless tobacco in the form of a powder that is placed between the gingiva and the lip or cheek or inhaled into the nose.
2. **Medical/Dental Risks of Smokeless Tobacco.** Many people who use smokeless tobacco think it's safer than smoking. However, smokeless tobacco carries many health risks.
   a. Recent research shows the dangers of smokeless tobacco might play a role in cancers of the pancreas, heart disease, and stroke.
   b. Regular use of smokeless tobacco can cause oral cancers and dental problems, so it should not be used as a substitute for smoking cigarettes.
   c. Gingival recession and decay of exposed root surfaces frequently occurs adjacent the site of placement of the smokeless tobacco (Fig. 11-8).

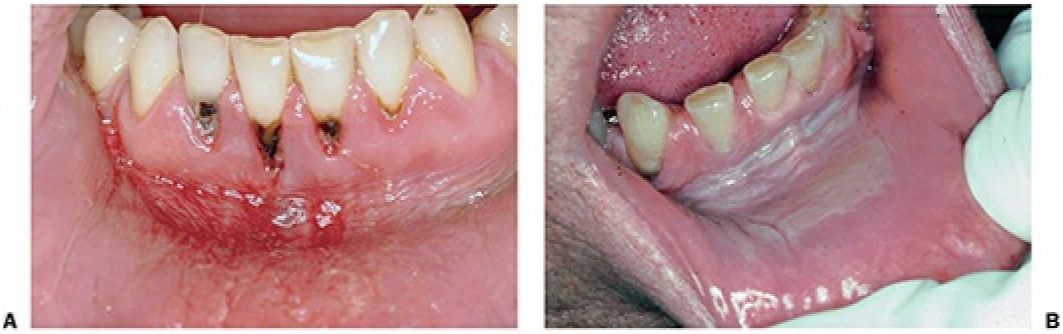


FIGURE 11-8 **Oral effects of smokeless tobacco. A.** Gingival recession, red sores, and decayed root surfaces at the site of placement of smokeless tobacco. **B.** A white patch at the site of placement of smokeless tobacco. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

d. White patches or red sores on the buccal mucosa occur at the site of placement of the smokeless tobacco (Figs. 11-8 and 11-9).

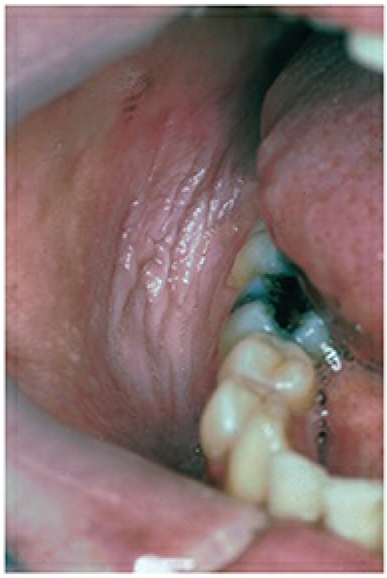


FIGURE 11-9 **White patch.** A white patch is evident on the buccal mucosa at the site of placement of smokeless tobacco. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

e. Cancers of the oral cavity (i.e., the mouth, lip, and tongue) have been associated with the use of chewing tobacco as well as snuff. ***Studies indicate that the tumors often arise at the site of placement of the tobacco.***

SECTION 2 • Harmful Properties of Tobacco

Chemical Components of Tobacco Products

As illustrated in Figure 11-10, all tobacco products emit over 7,000 chemicals, 70 of which have been identified as carcinogens.[18] A **carcinogen** is a chemical or other substance that causes cancer.

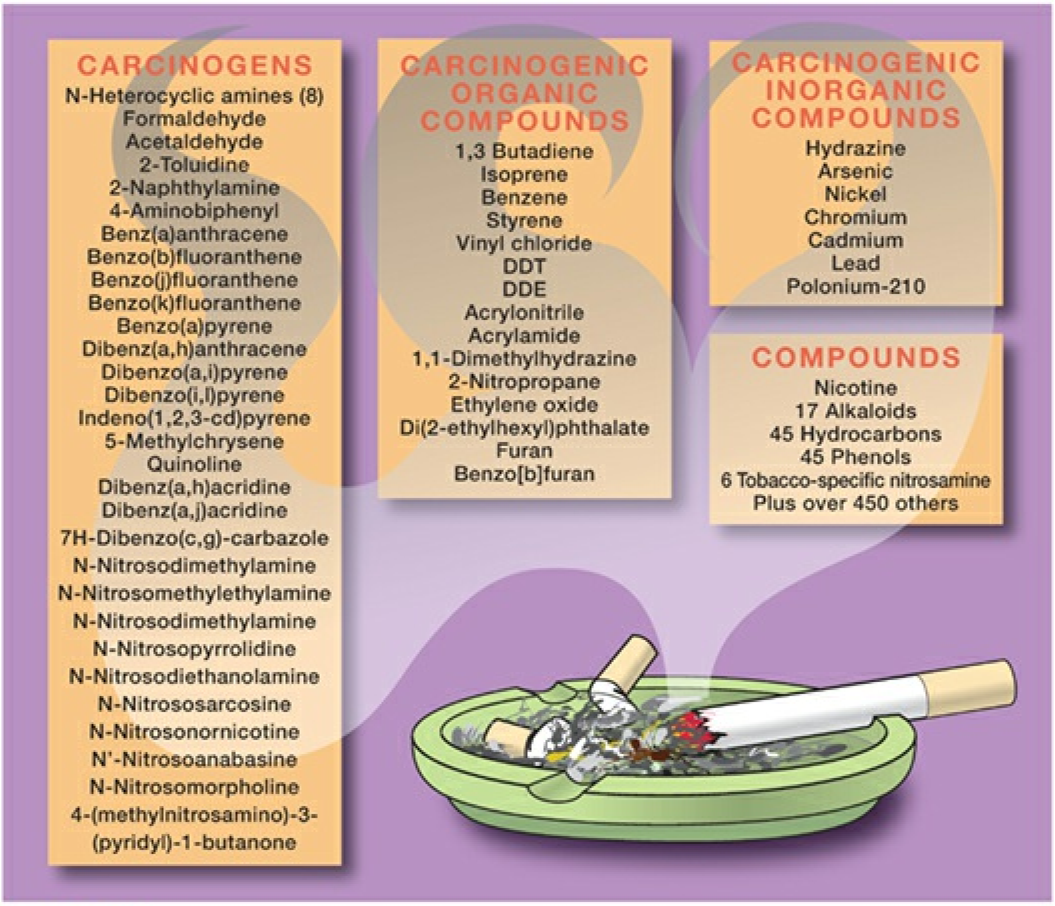

CARCINOGENS
N-Heterocyclic amines (8)
Formaldehyde
Acetaldehyde
2-Toluidine
2-Naphthylamine
4-Aminobiphenyl
Benz(a)anthracene
Benzo(b)fluoranthene
Benzo(j)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Dibenz(a,h)anthracene
Dibenzo(a,i)pyrene
Dibenzo(i,l)pyrene
Indeno(1,2,3-cd)pyrene
5-Methylchrysene
Quinoline
Dibenz(a,h)acridine
Dibenz(a,j)acridine
7H-Dibenzo(c,g)-carbazole
N-Nitrosodimethylamine
N-Nitrosomethylethylamine
N-Nitrosodimethylamine
N-Nitrosopyrrolidine
N-Nitrosodiethanolamine
N-Nitrososarcosine
N-Nitrosonornicotine
N'-Nitrosoanabasine
N-Nitrosomorpholine
4-(methylnitrosamino)-3-(pyridyl)-1-butanone
CARCINOGENIC ORGANIC COMPOUNDS
1,3 Butadiene
Isoprene
Benzene
Styrene
Vinyl chloride
DDT
DDE
Acrylonitrile
Acrylamide
1,1-Dimethylhydrazine
2-Nitropropane
Ethylene oxide
Di(2-ethylhexyl)phthalate
Furan
Benzo[b]furan
CARCINOGENIC INORGANIC COMPOUNDS
Hydrazine
Arsenic
Nickel
Chromium
Cadmium
Lead
Polonium-210
COMPOUNDS
Nicotine
17 Alkaloids
45 Hydrocarbons
45 Phenols
6 Tobacco-specific nitrosamine
Plus over 450 others

FIGURE 11-10 **Chemicals in cigarette smoke.** (From U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2006.)

- The act of burning a cigarette creates the majority of these chemical compounds, many of which are toxic and/or carcinogenic.[1] For example, formaldehyde, benzene, arsenic, ammonia, carbon monoxide, nitrogen oxides, hydrogen cyanide, and ammonia are all present in cigarette smoke.
- Ironically, low-tar cigarettes often produce higher levels of chemicals like carbon monoxide than regular cigarettes. Also, when smoking a low-tar cigarette, the smoker may inhale more deeply and more often to get the usual amount of nicotine. This is very important because even

though nicotine is not a carcinogen, it is the chemical that causes addiction.

Addictive Properties of Nicotine

Addiction is a chronic dependence on a substance—such as smoking—despite adverse consequences. The dependence on the substance makes stopping very difficult. All tobacco products contain nicotine. Nicotine is found naturally in tobacco; however, it is classified as an additive since all the tobacco companies increase the amount of nicotine in all tobacco products to ensure continual use.[17]

- Nicotine is powerful, fast acting, and one of the most addictive substances known to humankind (Fig. 11-11).

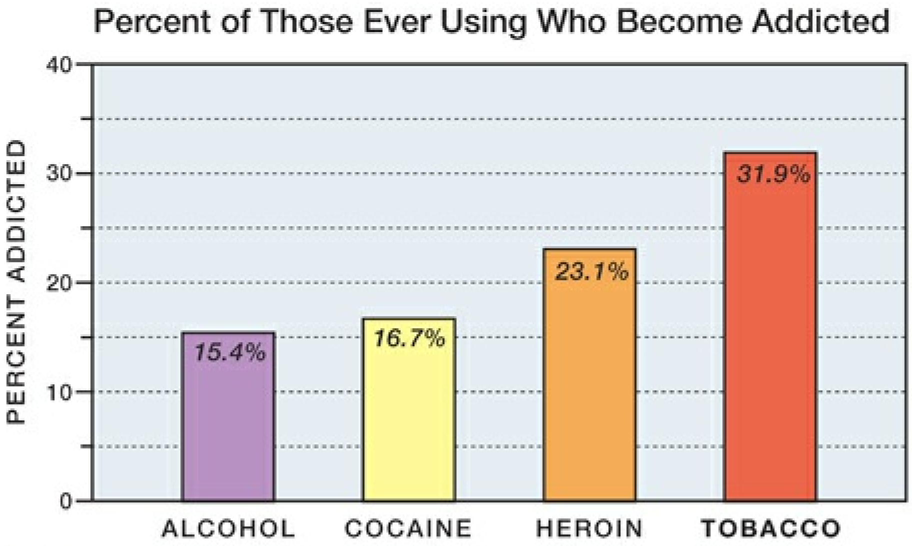


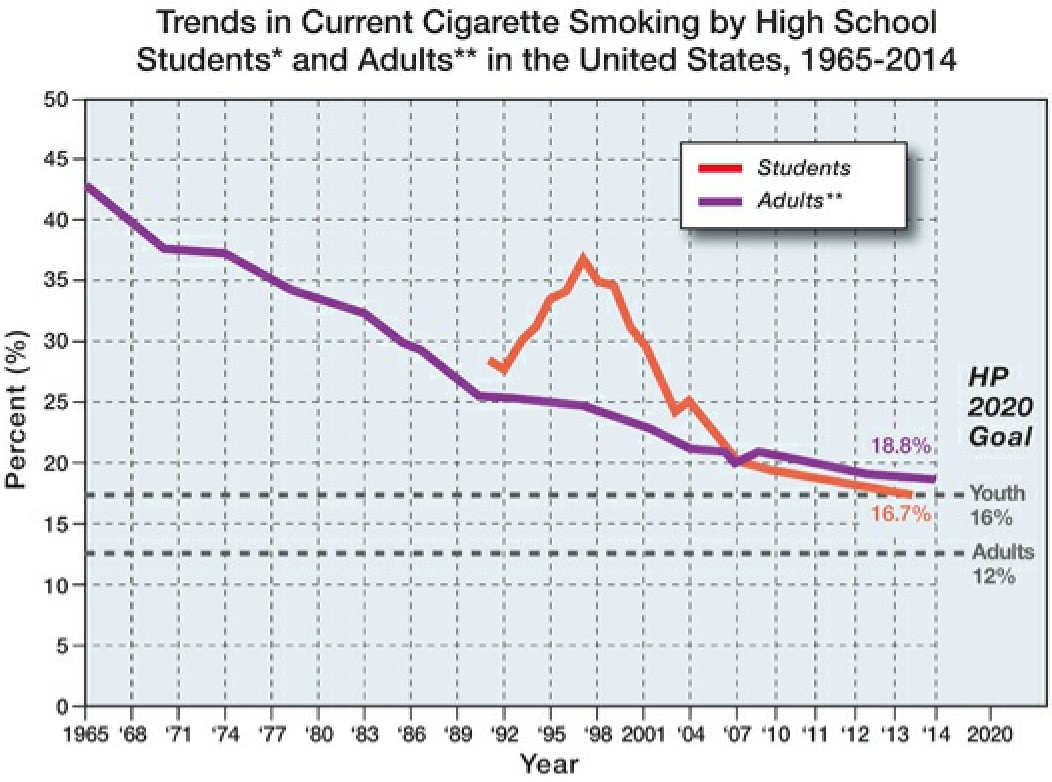
FIGURE 11-11 **Percentage of individuals who become addicted.** (From Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Arch Gen Psychiatry.* 1994;51[1]:8–19.)

- Even though nicotine is not a carcinogen, it is the chemical that causes addiction.
- On a milligram-per-milligram basis, it is 10 times more addictive than heroin or cocaine and 6 to 8 times more addictive than alcohol.
- It is therefore imperative that dental hygienists encourage each and every patient who uses tobacco to follow sound advice when making a quit attempt and consider incorporating one of the cessation medications

as part of the quit plan.

Tobacco Addiction

It is a testament to the power of tobacco addiction that 16.8% of U.S. adults (about 40 million)[11] and 15% of Canadians (about 4.2 million people) are current smokers.[19] Smoking rates in the United States and Canada have decreased since the 1964 Surgeon General’s report linked lung cancer and cigarette use. At that time, an estimated 42% of the American population was smokers. However, the current prevalence has not significantly decreased since 2004, demonstrating a stall in the previous 7-year decline (Fig. 11-12).[19]



*Percentage of high school students who smoked cigarettes on 1 or more of the 30 day preceding the survey (Youth Risk Behavior Survey, 1991-2013).
**Percentage of adults who are current cigarette smokers (National Health Interview Survey, 1965-2014).

FIGURE 11-12 **Current trends in smoking rates.**

- Unfortunately, the incidence is highest in the most vulnerable populations. Those living below poverty line are 31.1% more likely to smoke than those living above the poverty line.[20]

- The most powerless populations—the young, indigent, depressed, uninsured, less educated, blue-collar, and minorities—have the highest percentages of smokers in the United States and in Canada.
- Tragically, tobacco use must be considered a pediatric disease. Tobacco use is started and established primarily during adolescence. Nearly 9 out of 10 cigarette smokers first tried smoking by age 18 years, and 99% first tried smoking by age 26 years. Each day in the United States, more than 3,800 youth aged 18 years or younger smoke their first cigarette, and an additional 2,100 youth and young adults become daily cigarette smokers. If smoking continues at the current rate among youth in this country, 5.6 million of today's Americans younger than 18 years will die early from a smoking-related illness which is about 1 of every 13 Americans aged 17 years or younger alive today.[1]

SECTION 3 • Why Should Dental Health Care Providers Intervene?

As one of the most accessible health care professionals, dental hygienists are in an ideal position to provide tobacco cessation services. The more intensive the intervention, the higher the quit rates, but even minimal tobacco interventions—less than 3 minutes—increase the proportion of tobacco users who quit and have a considerable public health impact.

All dental health care professionals should be concerned with their patients' use of tobacco products. Smoking may be responsible for more than half of the cases of periodontal disease among adults in this country.[21,22] Tobacco use is therefore one of the most significant risk factors in the development and progression and successful treatment of periodontitis. Current smokers are about 4 times more likely than people who have never smoked to have periodontal disease.[21,22] Even in adult smokers with generally high oral hygiene standards and regular dental care habits, smoking accelerates periodontal disease.

Smoking and the Periodontium

1. **Smoking and Periodontitis**
    a. Smoking appears to be one of the most important risk factors in the development and progression of periodontal disease. Smoking may be responsible for more than half of the cases of periodontal disease among adults in the United States.[22–26]
    b. Smokers are 2.6 to 6 times more likely to exhibit periodontal destruction than nonsmokers.[12] Tobacco use is therefore one of the most significant risk factors in the development and progression and successful treatment of periodontitis.
    c. Smokers are 12 to 14 times more likely than nonsmokers to have severe bone loss.[12]
    d. Tobacco smoking may play an important role in the development of forms of periodontitis that does not respond to treatment (Fig. 11-13) despite excellent patient compliance and appropriate periodontal therapy.[27]

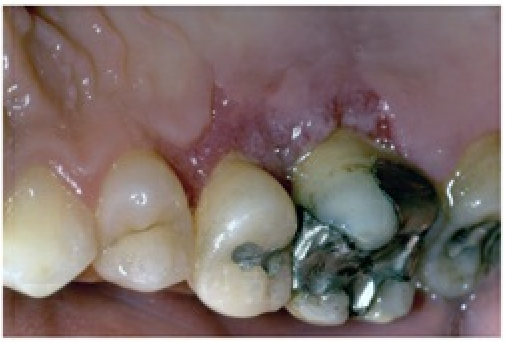


FIGURE 11-13 Poor healing after periodontal surgery. Shown here is a poor healing response to periodontal surgery in a smoker. (Courtesy of Dr. Ralph M. Arnold.)

    e. Smokers loose more teeth than nonsmokers. Only about 20% of people older than 65 years of age who have never smoked are toothless, whereas 41.3% of daily smokers older than 65 years are toothless.
    f. Current smokers are about 4 times more likely than people who have never smoked to develop advanced periodontal disease.[22–26] Even in adult smokers with generally high oral hygiene standards and regular

dental care habits, smoking accelerates periodontal disease.

   g. The extent of periodontal disease is directly related to the number of cigarettes smoked and the number of years of smoking. The more a person smokes and the longer a person smokes, the more periodontal disease that individual will have.
   h. Gingival inflammation and gingival bleeding, two of the cardinal signs of periodontal disease, are often reduced or absent in smokers. ***For this reason, great care should be taken in performing periodontal screening and examination of smokers. In smokers, the lack of bleeding on probing does not indicate healthy tissue as it does in nonsmokers***.[22–26]
   i. Cigarette smoking may be a cofactor in the relationship between periodontal disease and chronic obstructive pulmonary disease and in the relationship between periodontal disease and coronary heart disease.[22–26]

2. **Effects of Smoking Cessation on the Periodontium**
   a. The past effects of smoking on the periodontium, such as bone loss, cannot be reversed; however, smoking cessation is beneficial to the periodontium.
   b. Several years after quitting, former smokers are no more likely to have periodontal disease than persons who have never smoked. This indicates that quitting seems to gradually erase the harmful effects of tobacco use on periodontal health.
   c. ***Evidence that periodontal health does improve with smoking cessation has led the American Academy of Periodontology to recommend tobacco cessation counseling as an important component of periodontal therapy.***
   d. Dental hygienists should advise patients of tobacco’s negative effects on the periodontium and the benefits of quitting tobacco use. (“As your clinician, I want you to know that quitting smoking is the most important thing you can do to protect your current and future dental health.”)

SECTION 4 • Guidelines for Tobacco Cessation Counseling

The Clinical Practice Guideline

The *Clinical Practice Guideline for Treating Tobacco Use and Dependence*, published by the U.S. Department of Health and Human Services, is considered the benchmark for cessation techniques and treatment delivery strategies. The Clinical Practice Guideline may be downloaded at http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/clinicians-providers/guidelines-recommendations/tobacco/clinicians/update/treating_tobacco_use08.pdf. The updated 2008 Guideline reflects the scientific cessation literature published from 1975 to 2007. The guideline contains strategies and recommendations designed to assist clinicians in delivering and supporting effective treatments for tobacco use and dependence. Several key recommendations of the updated guideline are as follows:

- Tobacco dependence is a chronic condition that often requires repeated intervention. However, effective treatments exist that can produce long-term or even permanent abstinence.
- Because effective tobacco dependence treatments are available, every patient who uses tobacco should be offered at least one of these treatments:
  - **Patients *willing* to try to quit tobacco use should be provided with treatments identified as effective in this guideline.**
  - **Patients *unwilling* to try to quit tobacco use should be provided with a brief intervention designed to increase their motivation to quit.**
- It is essential that clinicians consistently identify, document, and counsel every tobacco user seen in a health care setting. Dental health care providers who ask all patients whether they use tobacco and advise quitting can have a profound impact on patient health. Figure 11-14

outlines a systematic approach to cessation counseling.

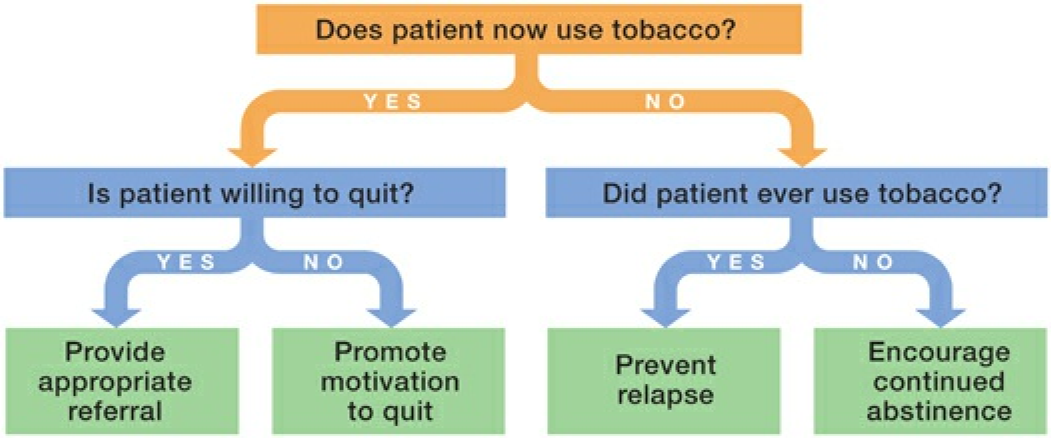

Does patient now use tobacco?
YES
NO
Is patient willing to quit?
Did patient ever use tobacco?
YES
NO
YES
NO
Provide appropriate referral
Promote motivation to quit
Prevent relapse
Encourage continued abstinence

FIGURE 11-14 **Systematic approach to tobacco cessation counseling.** Shown here is a user-friendly decision tree for providing tobacco cessation counseling.

One-on-One Education Is Needed

Despite major efforts to educate the public on the dangers of smoking over the past 50 years, the general populace seriously underestimates the magnitude of the harm that tobacco causes. Perhaps even more alarming is that major knowledge gaps exist in what smokers themselves believe to be true about the risks associated with smoking compared to the actual realities of tobacco-related disease and death.

- Although many smokers are aware that smoking can lead to serious health problems including lung cancer, many underestimate the risk of getting the disease from smoking.
- As many as a third of smokers think that certain activities such as exercise and taking vitamins “undo” most of the detrimental effects of smoking.
- Experts believe these misperceptions may prevent smokers from trying to quit and successfully utilizing proven smoking cessation treatments.
- A century from now, when historians reflect on the account of tobacco in the 20th century, it will surely be looked upon as one of the most intriguing and tragic developments of the period.

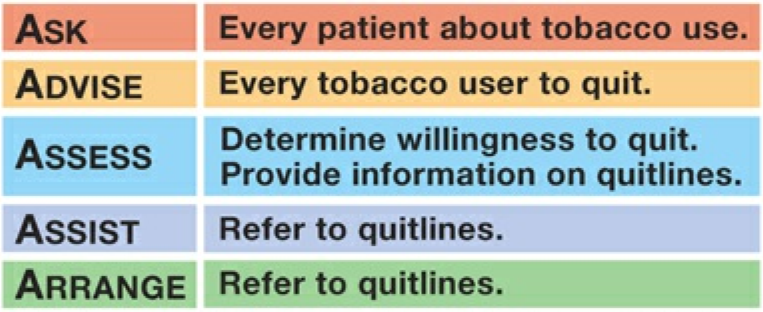
Tobacco Cessation Counseling Works

The effectiveness of even brief tobacco dependence counseling has been well established and is also extremely cost-effective relative to other medical and disease-prevention interventions.

- ***Smokers cite a health professional's advice to quit as an important motivator for attempting to stop smoking.***
- With effective education, counseling, and support—rather than condemnations and warnings about dangers of smoking—dental health care providers can provide an invaluable service.
- Helping someone overcome a tobacco addiction may be the most broad-reaching health care intervention a dental hygienist can achieve.

The Five A's Model

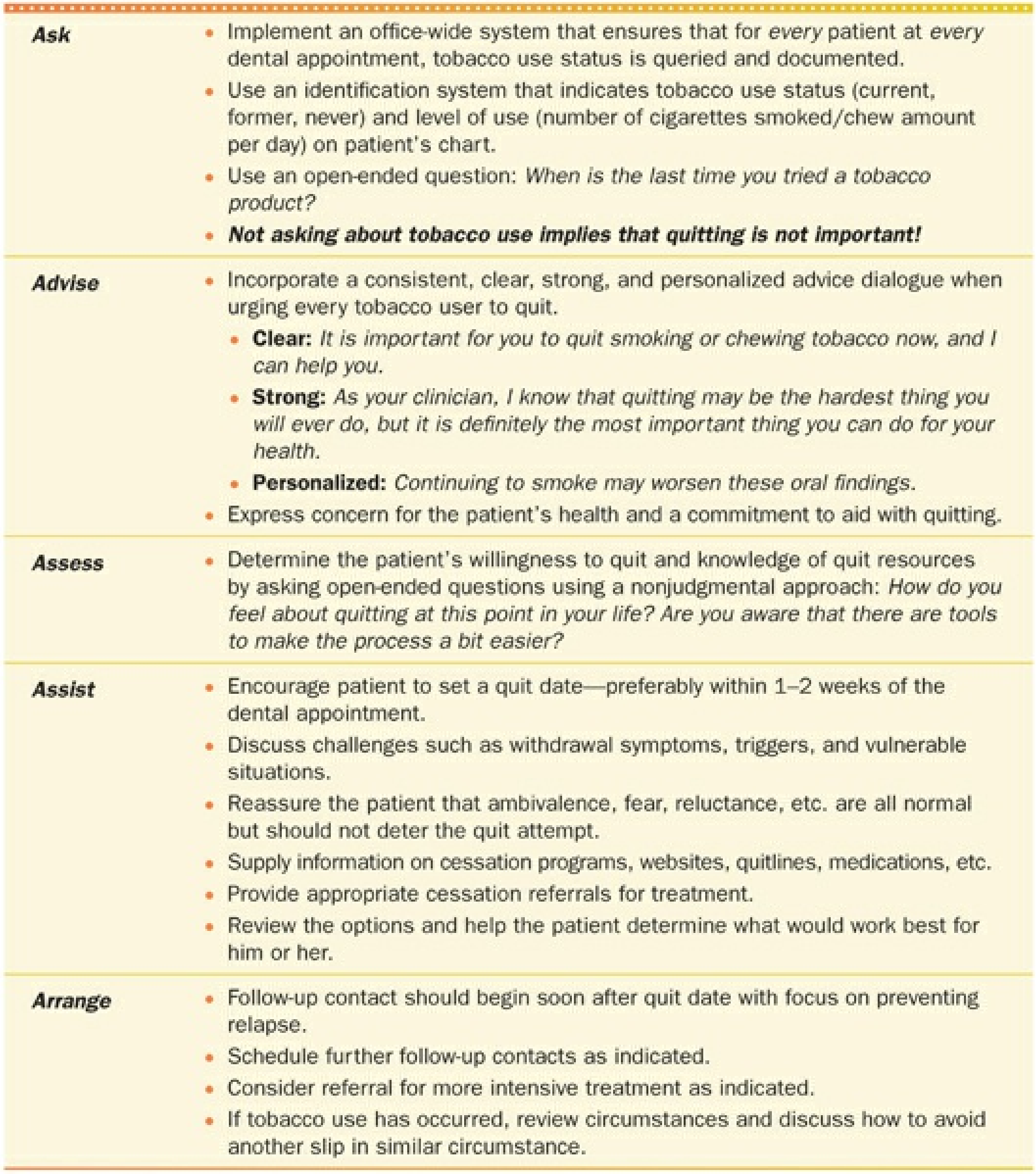
The Clinical Practice Guideline for Treating Tobacco Use and Dependence recommends the **Five A's Model** (Ask, Advise, Assess, Assist, and Arrange) as the key components of comprehensive tobacco cessation counseling (Fig. 11-15). Table 11-1 outlines strategies for implementing the Five A's.



ASK	Every patient about tobacco use.
ADVISE	Every tobacco user to quit.
ASSESS	Determine willingness to quit. Provide information on quitlines.
ASSIST	Refer to quitlines.
ARRANGE	Refer to quitlines.

FIGURE 11-15 **The Five A's Model.** The five steps of the Clinical Practice Guideline's model for tobacco use cessation.

TABLE 11-1 STRATEGIES FOR IMPLEMENTING THE FIVE "A'S"



Ask	• Implement an office-wide system that ensures that for *every* patient at *every* dental appointment, tobacco use status is queried and documented. • Use an identification system that indicates tobacco use status (current, former, never) and level of use (number of cigarettes smoked/chew amount per day) on patient's chart. • Use an open-ended question: *When is the last time you tried a tobacco product?* • ***Not asking about tobacco use implies that quitting is not important!***

Advise	• Incorporate a consistent, clear, strong, and personalized advice dialogue when urging every tobacco user to quit.
	  • **Clear:** *It is important for you to quit smoking or chewing tobacco now, and I can help you.*
	  • **Strong:** *As your clinician, I know that quitting may be the hardest thing you will ever do, but it is definitely the most important thing you can do for your health.*
	  • **Personalized:** *Continuing to smoke may worsen these oral findings.*
	• Express concern for the patient's health and a commitment to aid with quitting.

Assess	• Determine the patient's willingness to quit and knowledge of quit resources by asking open-ended questions using a nonjudgmental approach: *How do you feel about quitting at this point in your life? Are you aware that there are tools to make the process a bit easier?*
Assist	• Encourage patient to set a quit date—preferably within 1–2 weeks of the dental appointment. • Discuss challenges such as withdrawal symptoms, triggers, and vulnerable situations. • Reassure the patient that ambivalence, fear, reluctance, etc. are all normal but should not deter the quit attempt. • Supply information on cessation programs, websites, quitlines, medications, etc. • Provide appropriate cessation referrals for treatment. • Review the options and help the patient determine what would work best for him or her.
Arrange	• Follow-up contact should begin soon after quit date with focus on preventing relapse. • Schedule further follow-up contacts as indicated. • Consider referral for more intensive treatment as indicated. • If tobacco use has occurred, review circumstances and discuss how to avoid another slip in similar circumstance.

Quitlines

Quitlines are toll-free telephone centers staffed by trained smoking cessation experts. It takes as little as 30 seconds to refer a patient to a quitline or website (Fig. 11-16). A list of quitlines is provided in the "Ready Reference" section of this module.

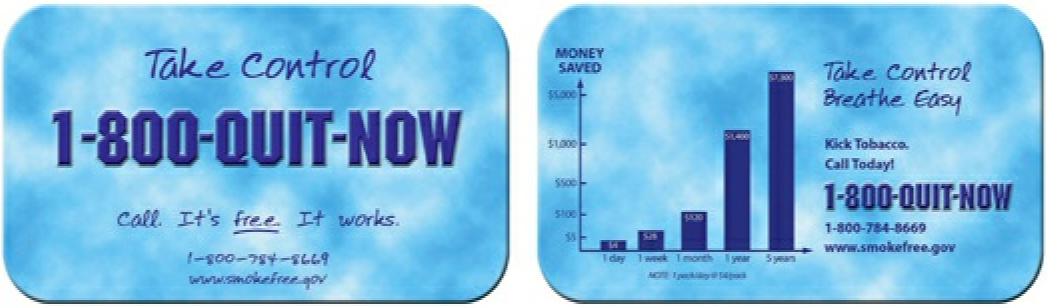

Take Control
1-800-QUIT-NOW
Call. It's free. It works.
1-800-784-8669
www.smokefree.gov
MONEY SAVED
$5,000
$1,000
$500
$100
$5
$4
$28
$120
$1,400
$7,300
1 day
1 week
1 month
1 year
5 years
Take Control
Breathe Easy
Kick Tobacco.
Call Today!
1-800-QUIT-NOW
1-800-784-8669
www.smokefree.gov

FIGURE 11-16 **U.S. Department of Health and Human Services quitline.** The U.S. Department of Health and Human Services has recognized the overwhelming success of quitlines and is dedicated to providing every citizen in every state with this important tool. (Card courtesy of the University of California, San Francisco, Smoking Leadership Center, San Francisco, CA.)

- Evidence suggests quitline use more than triples success in quitting.
- By referring their patients to a quitline, dental hygienists are incorporating all Five A's (Ask, Advise, Assess, Assist, Arrange) of the Smoking Cessation Clinical Practice Guidelines.
- ***Quitlines have proven to be one of the more effective methods of promoting smoking cessation.*** Canada and the United States have each established publicly financed quitline services.
- Quitline services have the potential to reach large numbers of tobacco users including low income, rural, elderly, uninsured, and racial/ethnic populations who may not otherwise have access to cessation programs.
- Dental hygienists are natural partners for quitlines and can play a major role in increasing utilization of quitline.
- Table 11-2 lists common misconceptions and facts about tobacco cessation counseling.

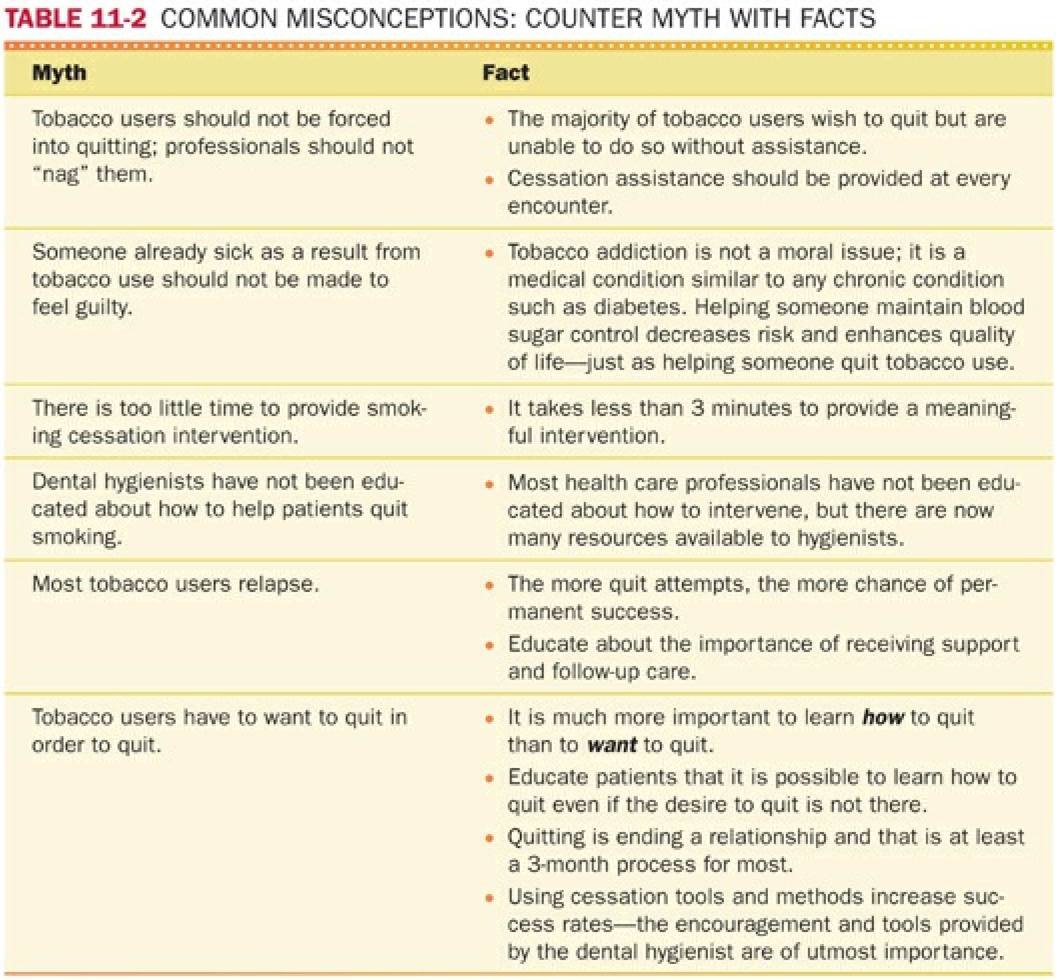


TABLE 11-2 COMMON MISCONCEPTIONS: COUNTER MYTH WITH FACTS

Myth	Fact
Tobacco users should not be forced into quitting; professionals should not "nag" them.	• The majority of tobacco users wish to quit but are unable to do so without assistance. • Cessation assistance should be provided at every encounter.
Someone already sick as a result from tobacco use should not be made to feel guilty.	• Tobacco addiction is not a moral issue; it is a medical condition similar to any chronic condition such as diabetes. Helping someone maintain blood sugar control decreases risk and enhances quality of life—just as helping someone quit tobacco use.
There is too little time to provide smoking cessation intervention.	• It takes less than 3 minutes to provide a meaningful intervention.
Dental hygienists have not been educated about how to help patients quit smoking.	• Most health care professionals have not been educated about how to intervene, but there are now many resources available to hygienists.
Most tobacco users relapse.	• The more quit attempts, the more chance of permanent success. • Educate about the importance of receiving support and follow-up care.
Tobacco users have to want to quit in order to quit.	• It is much more important to learn ***how*** to quit than to ***want*** to quit. • Educate patients that it is possible to learn how to quit even if the desire to quit is not there. • Quitting is ending a relationship and that is at least a 3-month process for most. • Using cessation tools and methods increase success rates—the encouragement and tools provided by the dental hygienist are of utmost importance.

Withdrawal Symptoms

Tobacco use is a complex behavior involving the interplay of physiologic, psychological, and habitual factors that continuously reinforce one another to promote dependence (Fig. 11-17). Two hallmarks of dependency include smoking within 30 minutes of arising from sleep and experiencing withdrawal symptoms if regular pattern of use is disrupted. The cardinal **withdrawal symptoms** include a variety of unpleasant symptoms such as craving for nicotine, irritability, anger, anxiety, fatigue, depressed mood, difficulty concentrating, restlessness, and sleep disturbance.

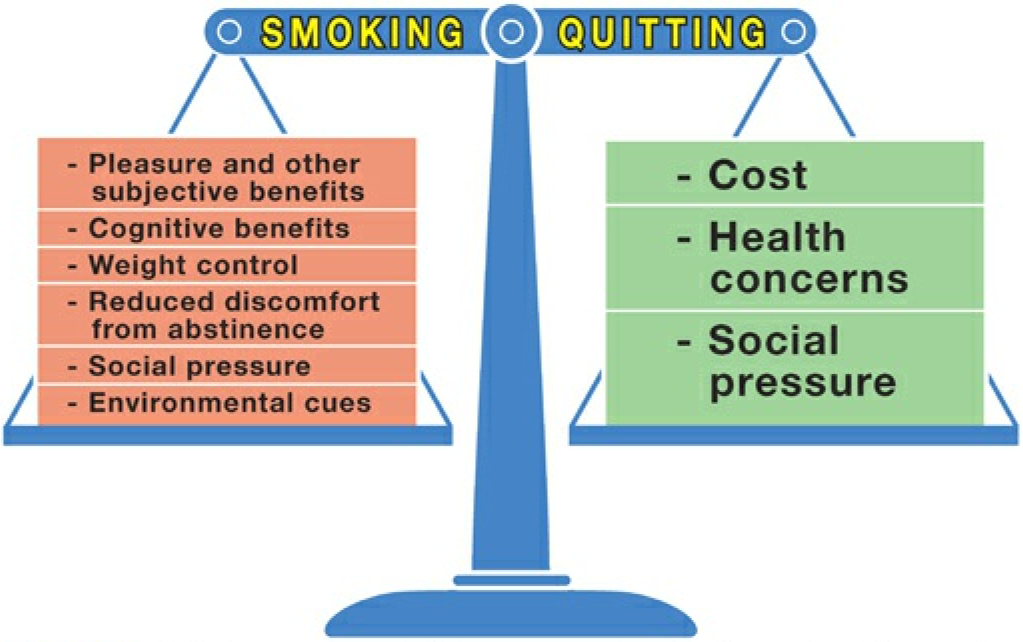

SMOKING
QUITTING
- Pleasure and other subjective benefits
- Cognitive benefits
- Weight control
- Reduced discomfort from abstinence
- Social pressure
- Environmental cues
- Cost
- Health concerns
- Social pressure

FIGURE 11-17 **Addiction versus free will.** Graphic representation of the factors that reinforce continued smoking versus factors that motivate smokers to quit.

Quit Rates and Implications

- The majority of smokers try to quit on their own. For most, relapse occurs quickly. Only half succeed for 2 days and only a third last 1 week. Most relapses occur in the first few months. Overall, self-quitters have a success rate of 4% to 6%.[1]
- Most smokers make 11 quit attempts before finally succeeding.
- Half of all smokers eventually quit. In the United States, there are now as many former smokers as current smokers.
- ***An important implication of the quit rate statistics is that dental health care providers need to understand the importance of helping the tobacco user through not just one quit attempt but rather through several attempts before a final successful one.***
- Another implication is that dental professionals need to prompt and reprompt tobacco users to make efforts to quit. Offering consistent smoking cessation counseling can motivate smokers to *try* to quit.

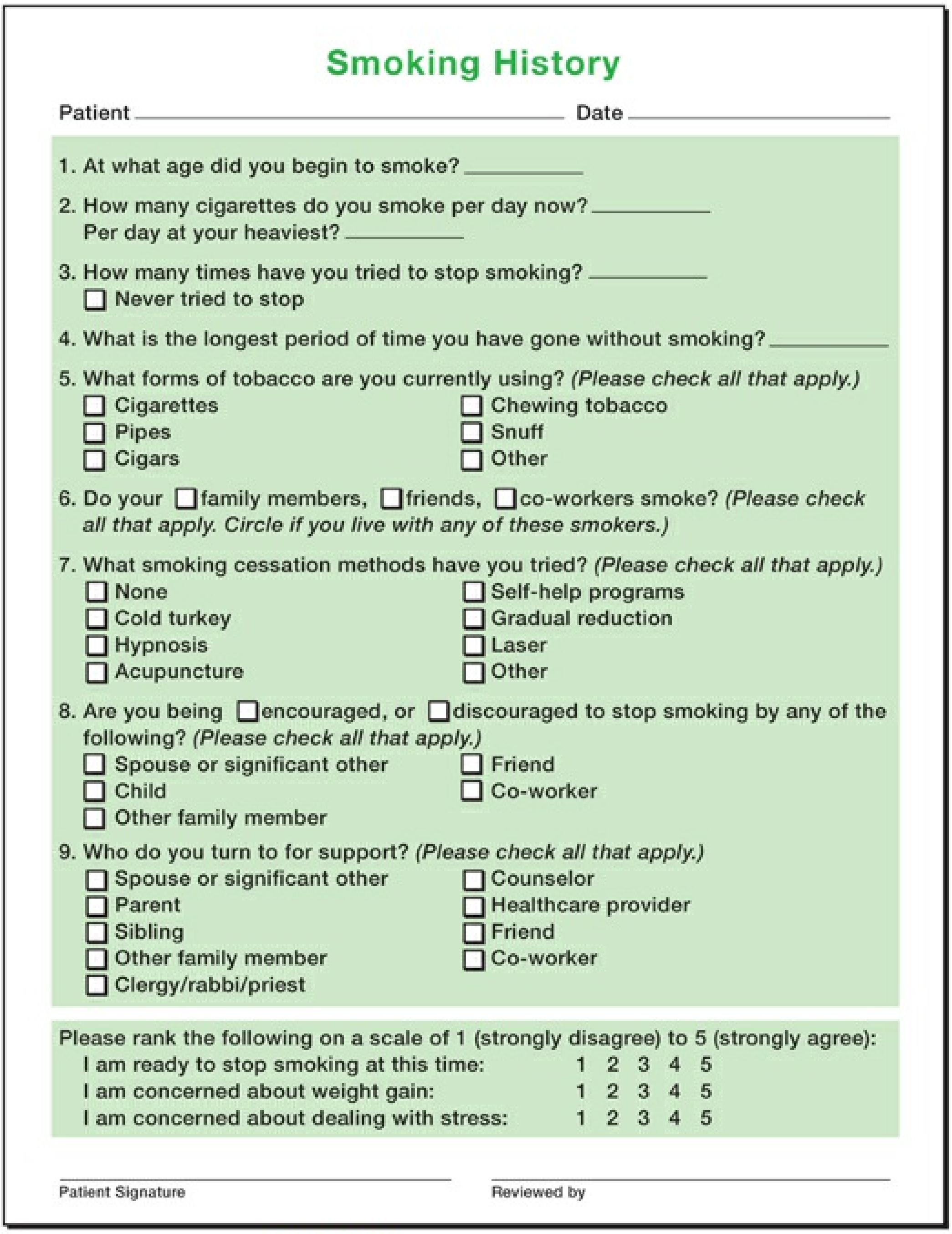
Procedure 11-1. Tobacco Cessation Counseling

1. **Ask.** Ask if your patient smokes or uses smokeless tobacco products.	• Many smokers want to quit and appreciate the encouragement of health professionals.
2. **Advise.** Advise the patient to quit. The benefits of quitting include: • Decreased risk of a heart attack, stroke, coronary heart disease; lung, oral, and pharyngeal cancer • Improved sense of taste and smell • Improved circulation and lung function • Improved health of family members	• Smokers are more likely to quit if advised to do so by health professionals. • The oral examination provides the perfect opportunity to discuss smoking cessation with your patient. • Tobacco use is a major risk factor in oral and pharyngeal cancer as well as periodontal disease. • Tobacco use is a risk factor for coronary heart disease, heart attack, and lung cancer. Secondhand smoke is unhealthy for family members.
3. **Refer.** Tell the patient that help is a free phone call away. Provide patient with quitline numbers. A list of quitlines for the United States and Canada is located in the “Ready References”	• Evidence suggests quitline use can more than triple success in quitting. • Quitlines provide an easy, fast, and effective way to help smokers quit. • By simply identifying smokers, advising them to

section of this module.	quit, and sending them to a free telephone service, clinicians can save thousands of lives.

SECTION 6 • Patient Education Resources

Figures 11-18 to 11-24 provide resources for use with patients.



Smoking History

Patient ______________________ Date ______________

1. At what age did you begin to smoke? __________

2. How many cigarettes do you smoke per day now? __________
   Per day at your heaviest? __________

3. How many times have you tried to stop smoking? __________
   ☐ Never tried to stop

4. What is the longest period of time you have gone without smoking? __________

5. What forms of tobacco are you currently using? *(Please check all that apply.)*
   ☐ Cigarettes
   ☐ Pipes
   ☐ Cigars
   ☐ Chewing tobacco
   ☐ Snuff
   ☐ Other

6. Do your ☐ family members, ☐ friends, ☐ co-workers smoke? *(Please check all that apply. Circle if you live with any of these smokers.)*

7. What smoking cessation methods have you tried? *(Please check all that apply.)*
   ☐ None
   ☐ Cold turkey
   ☐ Hypnosis
   ☐ Acupuncture
   ☐ Self-help programs
   ☐ Gradual reduction
   ☐ Laser
   ☐ Other

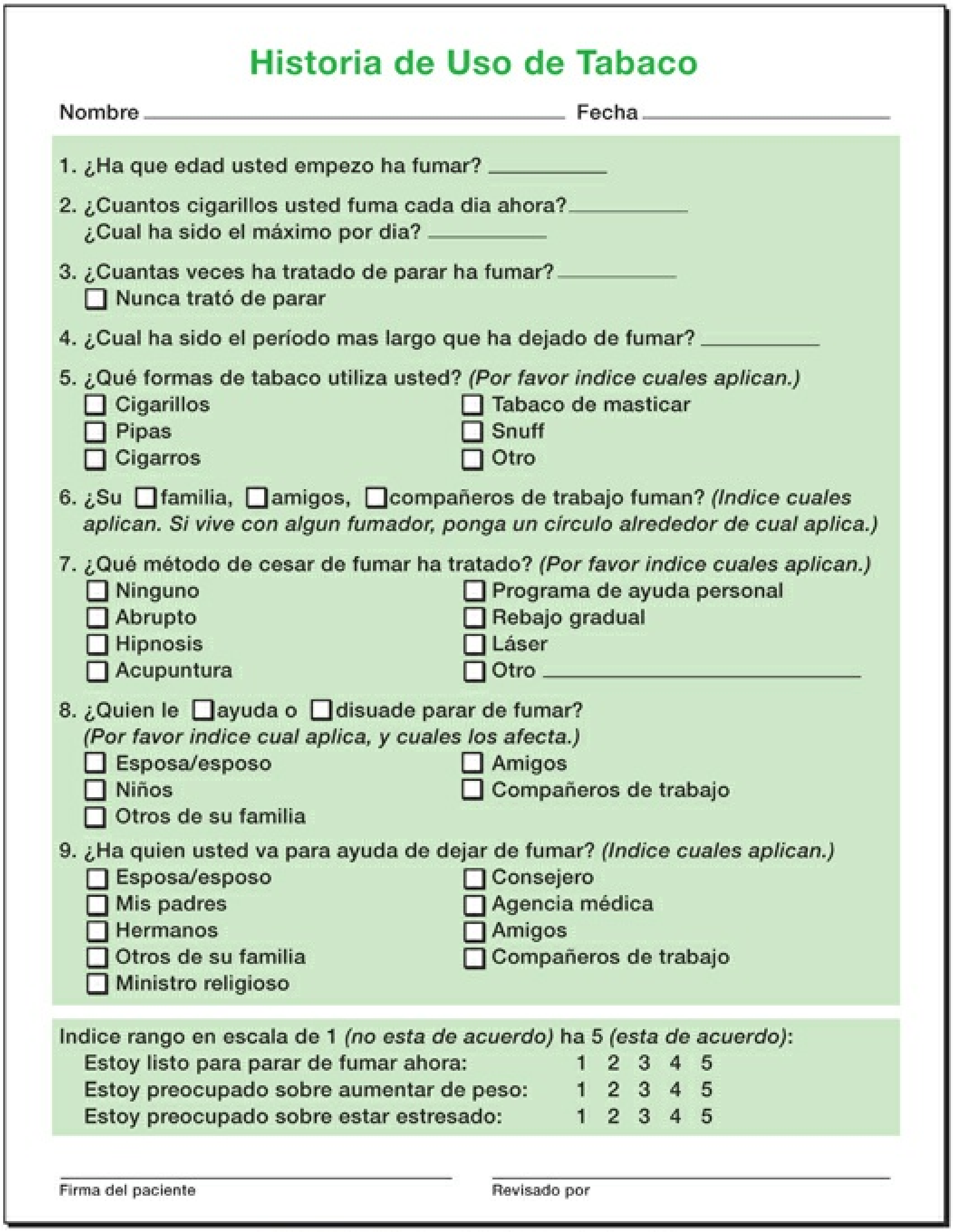
8. Are you being ☐ encouraged, or ☐ discouraged to stop smoking by any of the following? *(Please check all that apply.)*
   ☐ Spouse or significant other
   ☐ Child
   ☐ Other family member
   ☐ Friend
   ☐ Co-worker

9. Who do you turn to for support? *(Please check all that apply.)*
   ☐ Spouse or significant other
   ☐ Parent
   ☐ Sibling
   ☐ Other family member
   ☐ Clergy/rabbi/priest
   ☐ Counselor
   ☐ Healthcare provider
   ☐ Friend
   ☐ Co-worker

Please rank the following on a scale of 1 (strongly disagree) to 5 (strongly agree):
I am ready to stop smoking at this time: 1 2 3 4 5
I am concerned about weight gain: 1 2 3 4 5
I am concerned about dealing with stress: 1 2 3 4 5

______________________ ______________________
Patient Signature Reviewed by

FIGURE 11-18 Smoking History in English.



Historia de Uso de Tabaco

Nombre ______________________________ Fecha ____________________

1. ¿Ha que edad usted empezo ha fumar? __________

2. ¿Cuantos cigarillos usted fuma cada dia ahora? __________
¿Cual ha sido el máximo por dia? __________

3. ¿Cuantas veces ha tratado de parar ha fumar? __________
☐ Nunca trató de parar

4. ¿Cual ha sido el período mas largo que ha dejado de fumar? __________

5. ¿Qué formas de tabaco utiliza usted? *(Por favor indice cuales aplican.)*
☐ Cigarillos
☐ Pipas
☐ Cigarros
☐ Tabaco de masticar
☐ Snuff
☐ Otro

6. ¿Su ☐ familia, ☐ amigos, ☐ compañeros de trabajo fuman? *(Indice cuales aplican. Si vive con algun fumador, ponga un círculo alrededor de cual aplica.)*

7. ¿Qué método de cesar de fumar ha tratado? *(Por favor indice cuales aplican.)*
☐ Ninguno
☐ Abrupto
☐ Hipnosis
☐ Acupuntura
☐ Programa de ayuda personal
☐ Rebajo gradual
☐ Láser
☐ Otro ______________________

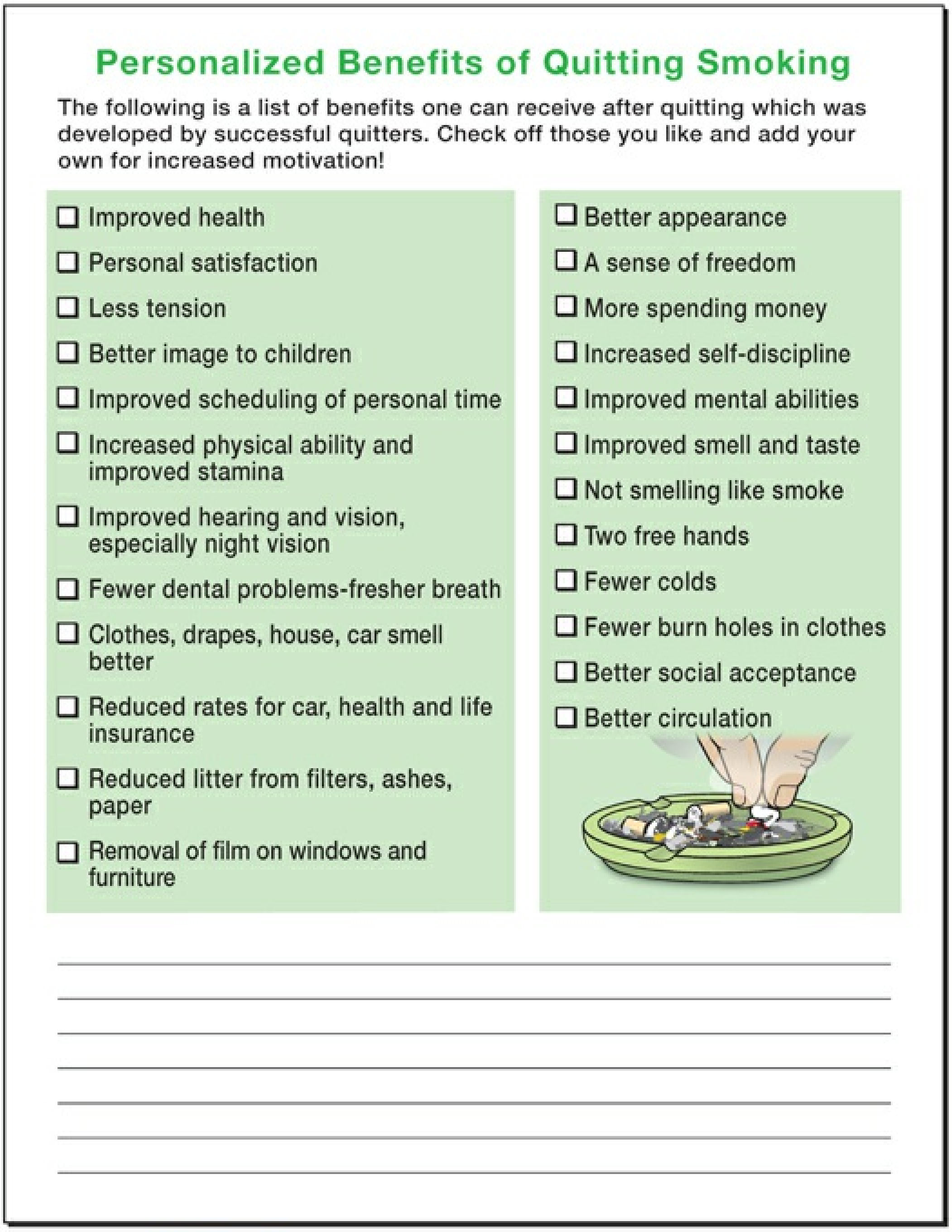
8. ¿Quien le ☐ ayuda o ☐ disuade parar de fumar?
(Por favor indice cual aplica, y cuales los afecta.)
☐ Esposa/esposo
☐ Niños
☐ Otros de su familia
☐ Amigos
☐ Compañeros de trabajo

9. ¿Ha quien usted va para ayuda de dejar de fumar? *(Indice cuales aplican.)*
☐ Esposa/esposo
☐ Mis padres
☐ Hermanos
☐ Otros de su familia
☐ Ministro religioso
☐ Consejero
☐ Agencia médica
☐ Amigos
☐ Compañeros de trabajo

Indice rango en escala de 1 *(no esta de acuerdo)* ha 5 *(esta de acuerdo)*:
Estoy listo para parar de fumar ahora: 1 2 3 4 5
Estoy preocupado sobre aumentar de peso: 1 2 3 4 5
Estoy preocupado sobre estar estresado: 1 2 3 4 5

______________________________ ______________________________
Firma del paciente Revisado por

FIGURE 11-19 Smoking History in Spanish.

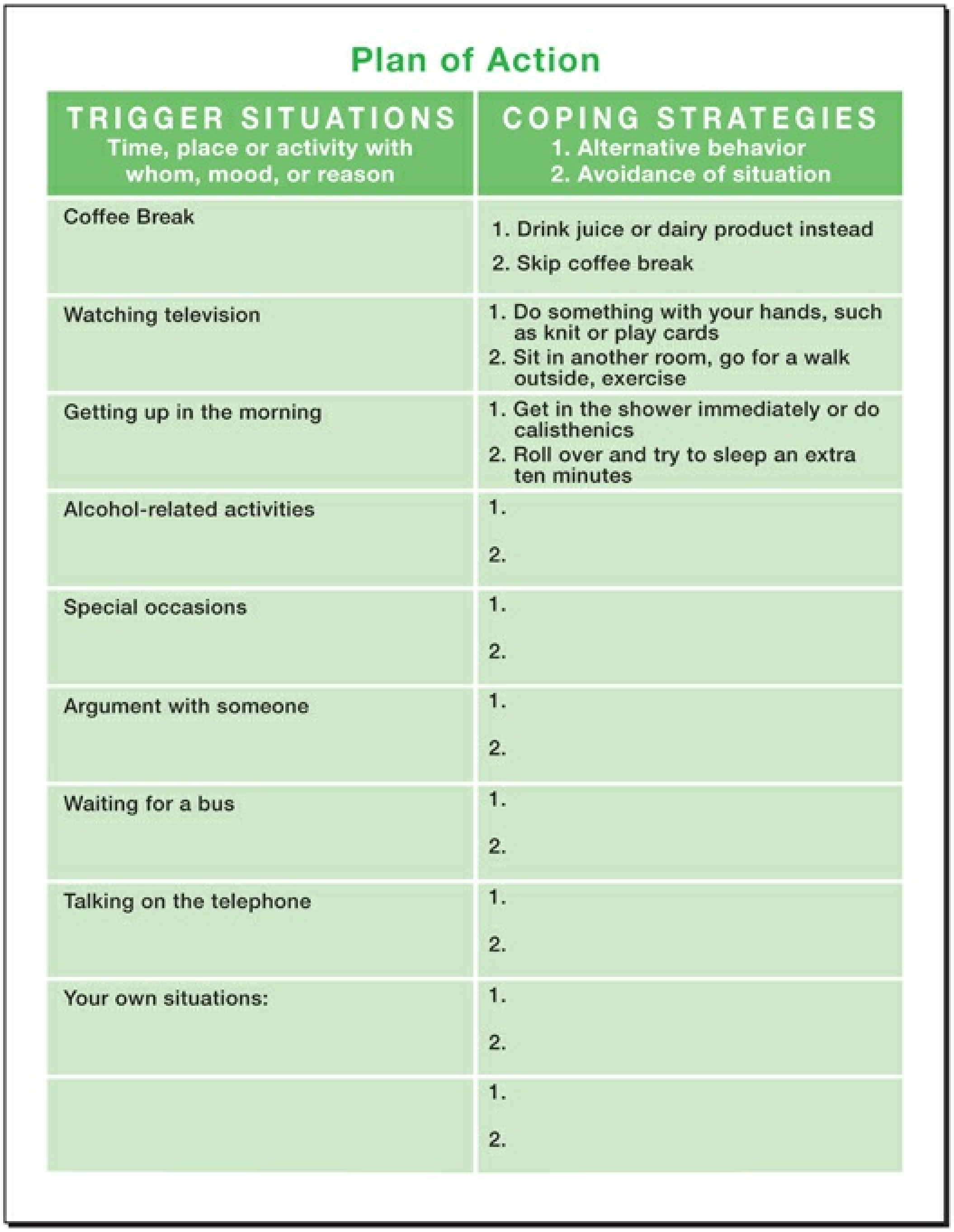


Personalized Benefits of Quitting Smoking

The following is a list of benefits one can receive after quitting which was developed by successful quitters. Check off those you like and add your own for increased motivation!

- ☐ Improved health
- ☐ Personal satisfaction
- ☐ Less tension
- ☐ Better image to children
- ☐ Improved scheduling of personal time
- ☐ Increased physical ability and improved stamina
- ☐ Improved hearing and vision, especially night vision
- ☐ Fewer dental problems-fresher breath
- ☐ Clothes, drapes, house, car smell better
- ☐ Reduced rates for car, health and life insurance
- ☐ Reduced litter from filters, ashes, paper
- ☐ Removal of film on windows and furniture
- ☐ Better appearance
- ☐ A sense of freedom
- ☐ More spending money
- ☐ Increased self-discipline
- ☐ Improved mental abilities
- ☐ Improved smell and taste
- ☐ Not smelling like smoke
- ☐ Two free hands
- ☐ Fewer colds
- ☐ Fewer burn holes in clothes
- ☐ Better social acceptance
- ☐ Better circulation

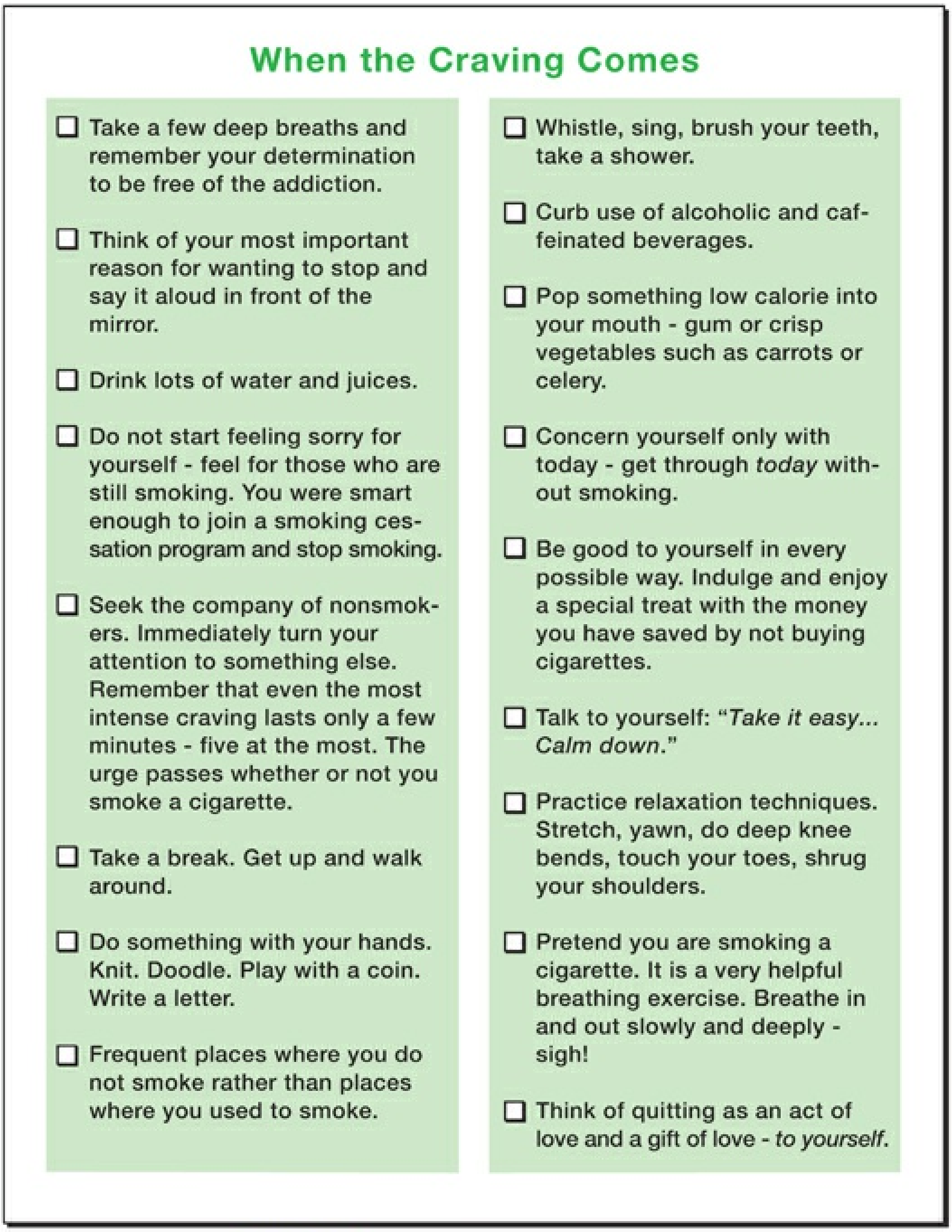
FIGURE 11-20 Personalized Benefits of Quitting Smoking Worksheet.



Plan of Action

TRIGGER SITUATIONS Time, place or activity with whom, mood, or reason	COPING STRATEGIES 1. Alternative behavior 2. Avoidance of situation
Coffee Break	1. Drink juice or dairy product instead 2. Skip coffee break
Watching television	1. Do something with your hands, such as knit or play cards 2. Sit in another room, go for a walk outside, exercise
Getting up in the morning	1. Get in the shower immediately or do calisthenics 2. Roll over and try to sleep an extra ten minutes
Alcohol-related activities	1. 2.
Special occasions	1. 2.
Argument with someone	1. 2.
Waiting for a bus	1. 2.
Talking on the telephone	1. 2.
Your own situations:	1. 2.
	1. 2.

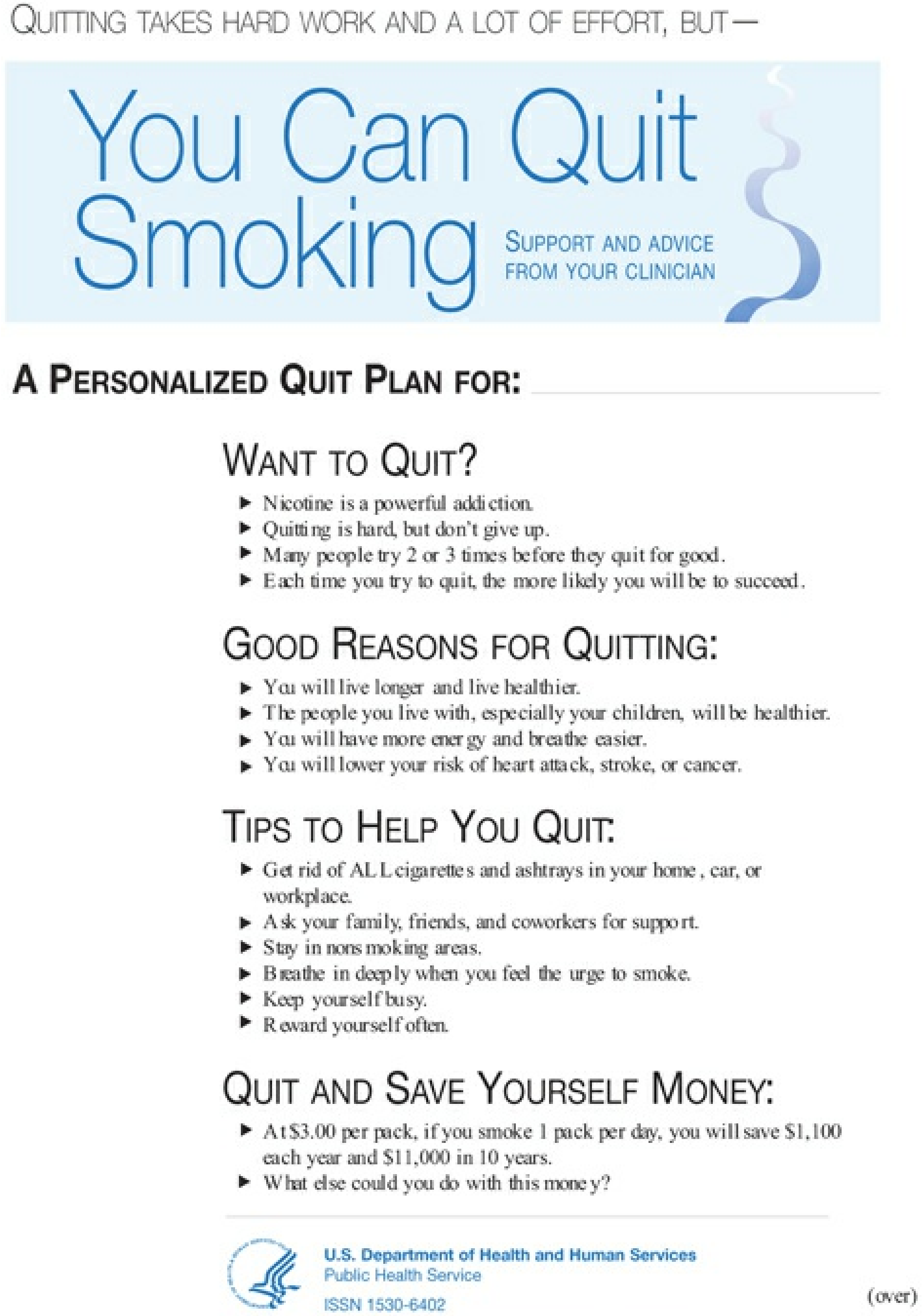
FIGURE 11-21 Plan of Action Worksheet.



When the Craving Comes

- ☐ Take a few deep breaths and remember your determination to be free of the addiction.
- ☐ Think of your most important reason for wanting to stop and say it aloud in front of the mirror.
- ☐ Drink lots of water and juices.
- ☐ Do not start feeling sorry for yourself - feel for those who are still smoking. You were smart enough to join a smoking cessation program and stop smoking.
- ☐ Seek the company of nonsmokers. Immediately turn your attention to something else. Remember that even the most intense craving lasts only a few minutes - five at the most. The urge passes whether or not you smoke a cigarette.
- ☐ Take a break. Get up and walk around.
- ☐ Do something with your hands. Knit. Doodle. Play with a coin. Write a letter.
- ☐ Frequent places where you do not smoke rather than places where you used to smoke.
- ☐ Whistle, sing, brush your teeth, take a shower.
- ☐ Curb use of alcoholic and caffeinated beverages.
- ☐ Pop something low calorie into your mouth - gum or crisp vegetables such as carrots or celery.
- ☐ Concern yourself only with today - get through *today* without smoking.
- ☐ Be good to yourself in every possible way. Indulge and enjoy a special treat with the money you have saved by not buying cigarettes.
- ☐ Talk to yourself: "*Take it easy... Calm down.*"
- ☐ Practice relaxation techniques. Stretch, yawn, do deep knee bends, touch your toes, shrug your shoulders.
- ☐ Pretend you are smoking a cigarette. It is a very helpful breathing exercise. Breathe in and out slowly and deeply - sigh!
- ☐ Think of quitting as an act of love and a gift of love - *to yourself*.

FIGURE 11-22 When the Craving Comes handout.



QUITTING TAKES HARD WORK AND A LOT OF EFFORT, BUT—

You Can Quit Smoking

SUPPORT AND ADVICE
FROM YOUR CLINICIAN

A PERSONALIZED QUIT PLAN FOR: ____________________

WANT TO QUIT?

- Nicotine is a powerful addiction.
- Quitting is hard, but don't give up.
- Many people try 2 or 3 times before they quit for good.
- Each time you try to quit, the more likely you will be to succeed.

GOOD REASONS FOR QUITTING:

- You will live longer and live healthier.
- The people you live with, especially your children, will be healthier.
- You will have more energy and breathe easier.
- You will lower your risk of heart attack, stroke, or cancer.

TIPS TO HELP YOU QUIT:

- Get rid of ALL cigarettes and ashtrays in your home, car, or workplace.
- Ask your family, friends, and coworkers for support.
- Stay in nonsmoking areas.
- Breathe in deeply when you feel the urge to smoke.
- Keep yourself busy.
- Reward yourself often.

QUIT AND SAVE YOURSELF MONEY:

- At $3.00 per pack, if you smoke 1 pack per day, you will save $1,100 each year and $11,000 in 10 years.
- What else could you do with this money?

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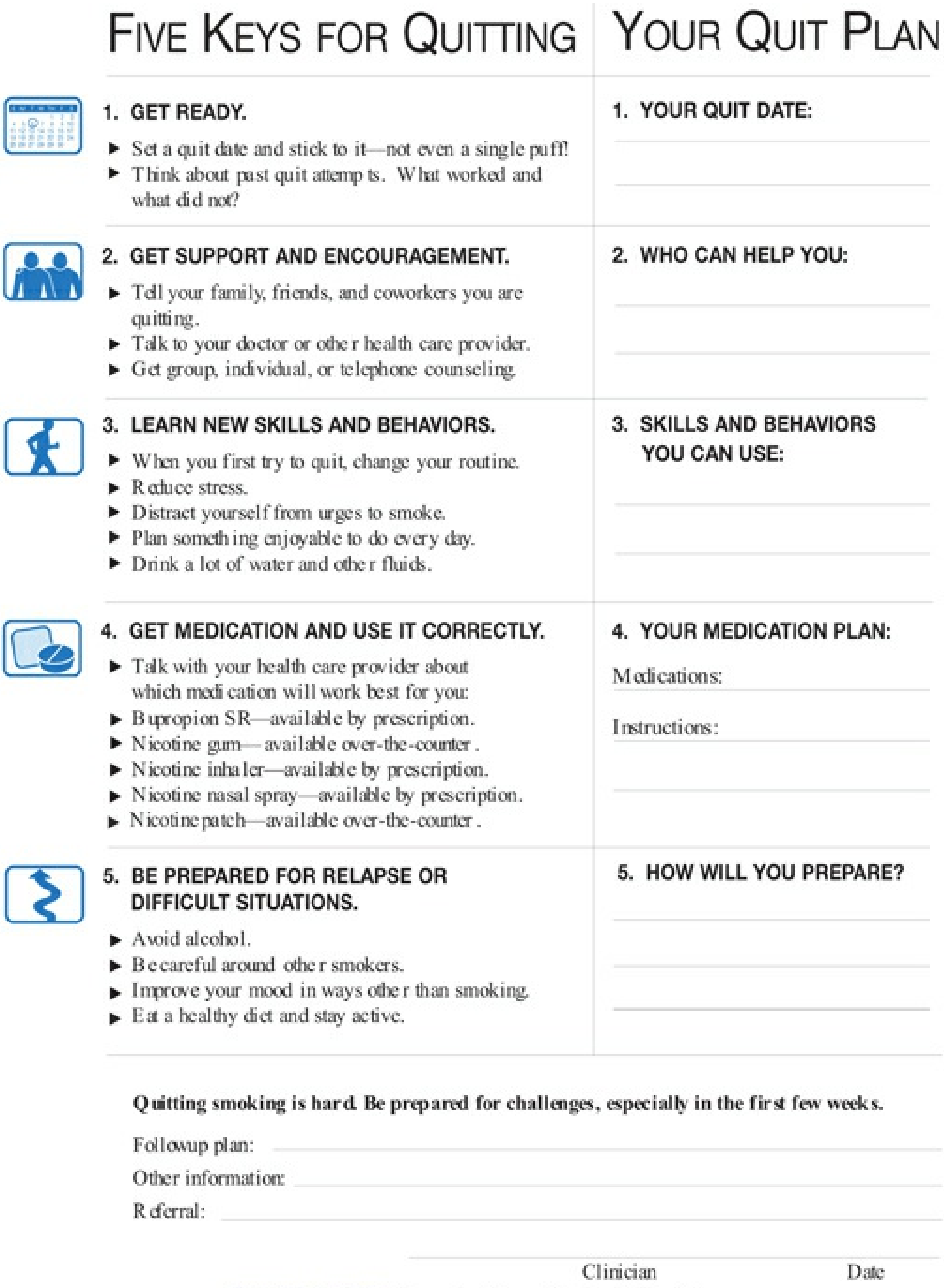
(over)

FIGURE 11-23A **Page 1 of the quit plan in English.**



FIVE KEYS FOR QUITTING	YOUR QUIT PLAN
1. GET READY. ▶ Set a quit date and stick to it—not even a single puff! ▶ Think about past quit attempts. What worked and what did not?	**1. YOUR QUIT DATE:**
2. GET SUPPORT AND ENCOURAGEMENT. ▶ Tell your family, friends, and coworkers you are quitting. ▶ Talk to your doctor or other health care provider. ▶ Get group, individual, or telephone counseling.	**2. WHO CAN HELP YOU:**
3. LEARN NEW SKILLS AND BEHAVIORS. ▶ When you first try to quit, change your routine. ▶ Reduce stress. ▶ Distract yourself from urges to smoke. ▶ Plan something enjoyable to do every day. ▶ Drink a lot of water and other fluids.	**3. SKILLS AND BEHAVIORS YOU CAN USE:**
4. GET MEDICATION AND USE IT CORRECTLY. ▶ Talk with your health care provider about which medication will work best for you: ▶ Bupropion SR—available by prescription. ▶ Nicotine gum—available over-the-counter. ▶ Nicotine inhaler—available by prescription. ▶ Nicotine nasal spray—available by prescription. ▶ Nicotine patch—available over-the-counter.	**4. YOUR MEDICATION PLAN:** Medications: Instructions:
5. BE PREPARED FOR RELAPSE OR DIFFICULT SITUATIONS. ▶ Avoid alcohol. ▶ Be careful around other smokers. ▶ Improve your mood in ways other than smoking. ▶ Eat a healthy diet and stay active.	**5. HOW WILL YOU PREPARE?**

Quitting smoking is hard. Be prepared for challenges, especially in the first few weeks.

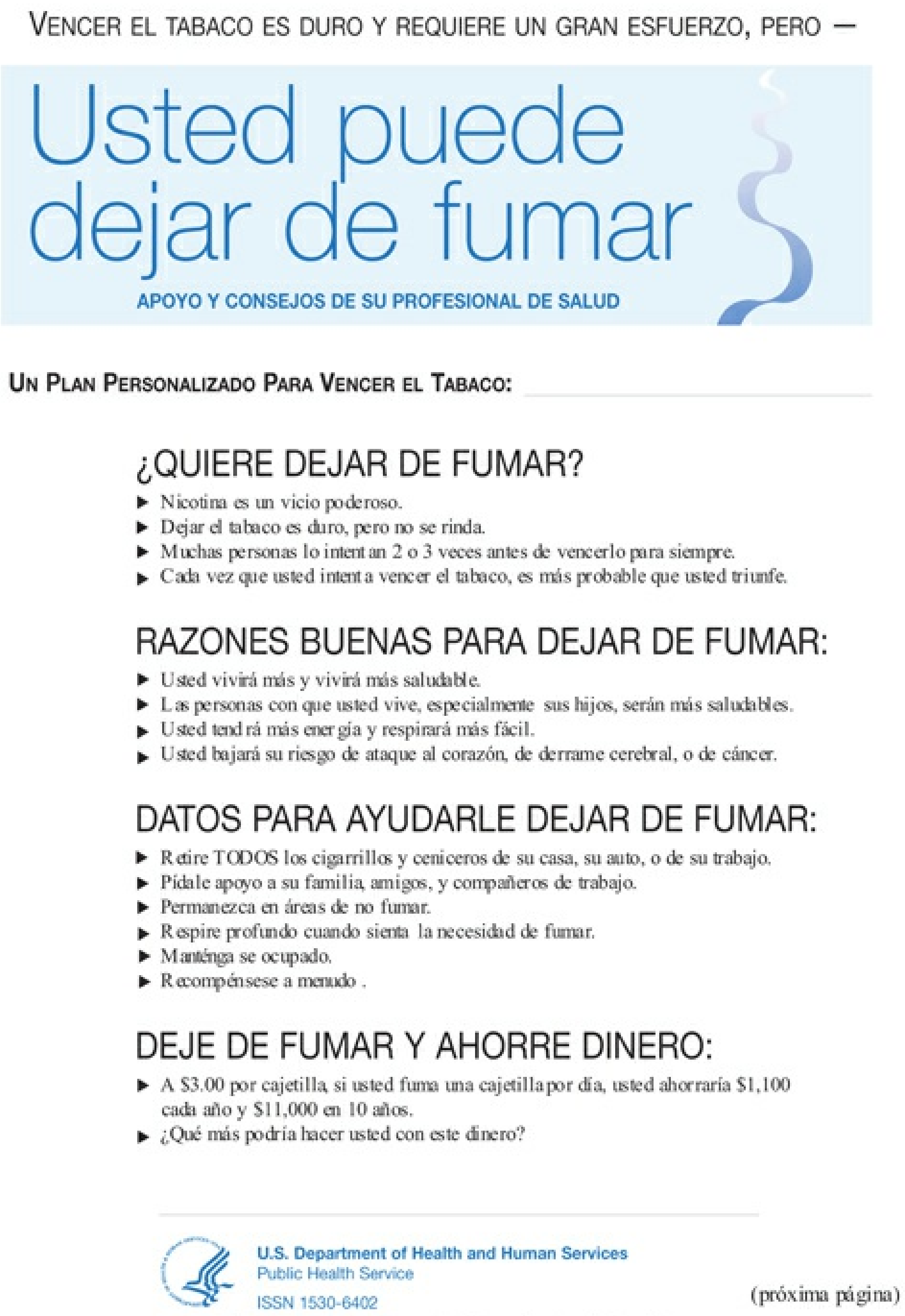
Followup plan:

Other information:

Referral:

Clinician Date

FIGURE 11-23B Page 2 of the quit plan in English.



VENCER EL TABACO ES DURO Y REQUIERE UN GRAN ESFUERZO, PERO —

Usted puede dejar de fumar

APOYO Y CONSEJOS DE SU PROFESIONAL DE SALUD

UN PLAN PERSONALIZADO PARA VENCER EL TABACO: ______________________

¿QUIERE DEJAR DE FUMAR?

- Nicotina es un vicio poderoso.
- Dejar el tabaco es duro, pero no se rinda.
- Muchas personas lo intentan 2 o 3 veces antes de vencerlo para siempre.
- Cada vez que usted intenta vencer el tabaco, es más probable que usted triunfe.

RAZONES BUENAS PARA DEJAR DE FUMAR:

- Usted vivirá más y vivirá más saludable.
- Las personas con que usted vive, especialmente sus hijos, serán más saludables.
- Usted tendrá más energia y respirará más fácil.
- Usted bajará su riesgo de ataque al corazón, de derrame cerebral, o de cáncer.

DATOS PARA AYUDARLE DEJAR DE FUMAR:

- Retire TODOS los cigarrillos y ceniceros de su casa, su auto, o de su trabajo.
- Pídale apoyo a su familia, amigos, y compañeros de trabajo.
- Permanezca en áreas de no fumar.
- Respire profundo cuando sienta la necesidad de fumar.
- Manténga se ocupado.
- Recompénsese a menudo .

DEJE DE FUMAR Y AHORRE DINERO:

- A $3.00 por cajetilla, si usted fuma una cajetilla por día, usted ahorraría $1,100 cada año y $11,000 en 10 años.
- ¿Qué más podría hacer usted con este dinero?

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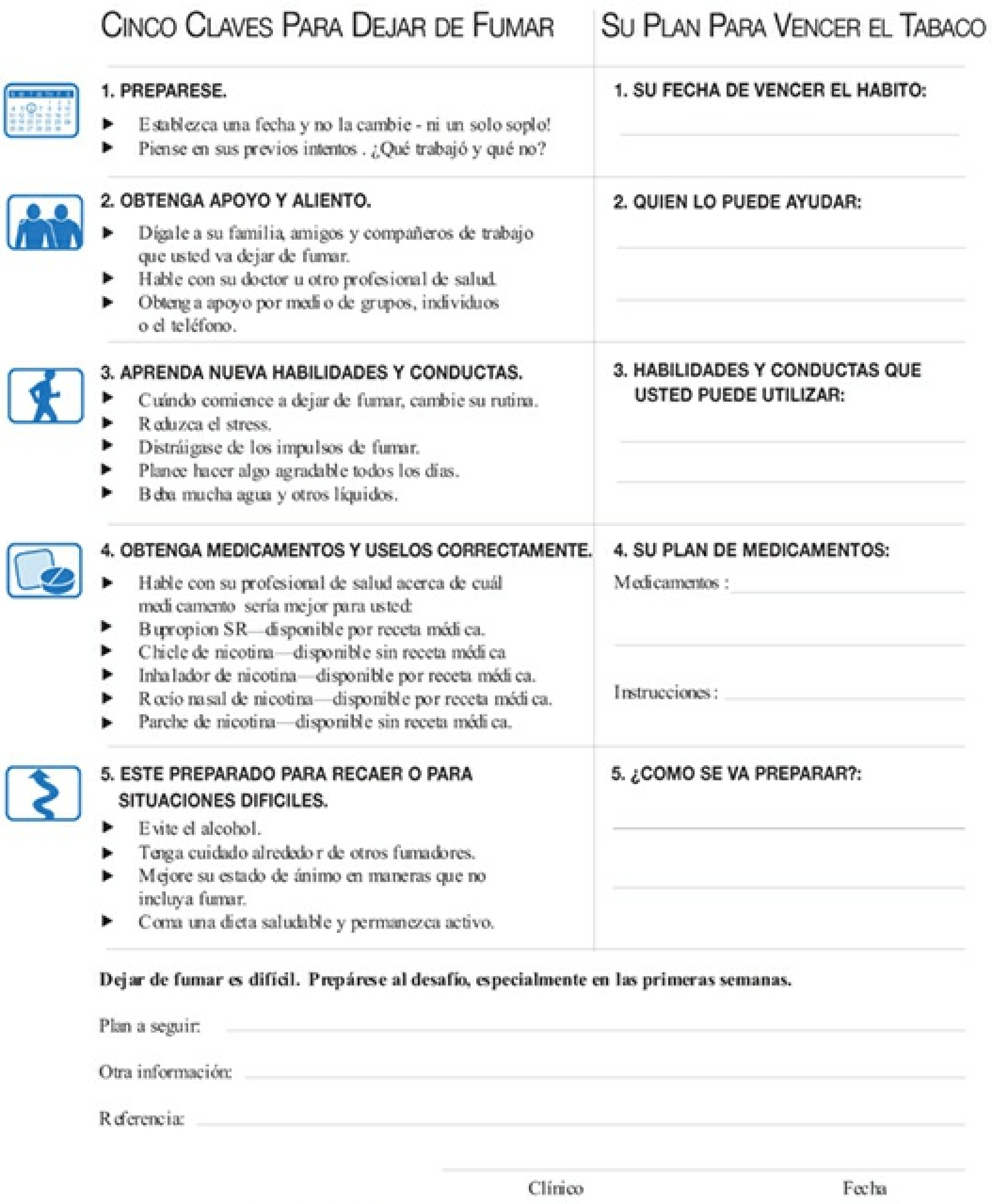
(próxima página)

FIGURE 11-24A Page 1 of the quit plan in Spanish.



CINCO CLAVES PARA DEJAR DE FUMAR	SU PLAN PARA VENCER EL TABACO
1. PREPARESE. ▸ Establezca una fecha y no la cambie - ni un solo soplo! ▸ Piense en sus previos intentos . ¿Qué trabajó y qué no?	**1. SU FECHA DE VENCER EL HABITO:**
2. OBTENGA APOYO Y ALIENTO. ▸ Dígale a su familia, amigos y compañeros de trabajo que usted va dejar de fumar. ▸ Hable con su doctor u otro profesional de salud. ▸ Obtenga apoyo por medio de grupos, individuos o el teléfono.	**2. QUIEN LO PUEDE AYUDAR:**
3. APRENDA NUEVA HABILIDADES Y CONDUCTAS. ▸ Cuándo comience a dejar de fumar, cambie su rutina. ▸ Reduzca el stress. ▸ Distráigase de los impulsos de fumar. ▸ Planee hacer algo agradable todos los días. ▸ Beba mucha agua y otros líquidos.	**3. HABILIDADES Y CONDUCTAS QUE USTED PUEDE UTILIZAR:**
4. OBTENGA MEDICAMENTOS Y USELOS CORRECTAMENTE. ▸ Hable con su profesional de salud acerca de cuál medicamento sería mejor para usted: ▸ Bupropion SR—disponible por receta médica. ▸ Chicle de nicotina—disponible sin receta médica ▸ Inhalador de nicotina—disponible por receta médica. ▸ Rocío nasal de nicotina—disponible por receta médica. ▸ Parche de nicotina—disponible sin receta médica.	**4. SU PLAN DE MEDICAMENTOS:** Medicamentos : Instrucciones :
5. ESTE PREPARADO PARA RECAER O PARA SITUACIONES DIFICILES. ▸ Evite el alcohol. ▸ Tenga cuidado alrededor de otros fumadores. ▸ Mejore su estado de ánimo en maneras que no incluya fumar. ▸ Coma una dieta saludable y permanezca activo.	**5. ¿COMO SE VA PREPARAR?:**

Dejar de fumar es difícil. Prepárese al desafío, especialmente en las primeras semanas.

Plan a seguir:

Otra información:

Referencia:

Clínico

Fecha

FIGURE 11-24B Page 2 of the quit plan in Spanish.

SECTION 7 • The Human Element

Through the Eyes of a Clinician

ONE COUNSELING EXPERIENCE

Mr. R. is a 60-year-old male who started smoking at age 14 years. By 17 years, he was smoking daily—as much as one to three packs a day. Mr. R.'s current daily consumption was two packs a day. Typically, Mr. R. smoked immediately upon waking and if he woke in the middle of the night. This information indicated to me that Mr. R. had a strong physical addiction.

Mr. R. told me that a year ago, he met a wonderful woman, Helen, and that they were going to be married in 7 months. He was very defensive about his smoking and said that Helen really wanted him to quit before their wedding. Mr. R. confided that he finds the pressure from his fiancée about quitting decidedly unhelpful! He felt that he did not have the "will power" to quit. He also expressed concern that since he had been smoking for so long, it was probably pointless to quit at his age.

I encouraged Mr. R. to just listen to the cessation options available to him. I assured him it wasn't nearly as necessary ***to want to quit*** as it was ***to decide to quit***, and I could help by offering him tools to assist in the quitting process. I spoke to Mr. R. about nicotine addiction and explained through no fault of his own, he most likely had a genetic predisposition to nicotine addiction. I told him that even though taking control of a nicotine addiction was more difficult than heroin, cocaine, or alcohol, it was very possible. Although quitting may be the most difficult thing he would ever do, it would also be the most worthwhile.

In speaking with Mr. R., I stressed the ***health benefits of quitting*** rather than talking about health risks from smoking. I explained the goal of quitting was not to stop wanting to smoke but to stop the behavior of smoking. He may want a cigarette the rest of his life—not to the degree upon first quitting—but, that doesn't mean he has to smoke the rest of his life! Quitting isn't about will power—it is about taking control over an addiction that now controls his life.

Six months after our meeting, Mr. R. e-mailed me from Paris. He and Helen were enjoying a very happy honeymoon; Mr. R. was not smoking and very confident he would remain tobacco free. He did gain a bit of weight but felt with exercise, he would soon lose those extra pounds. He felt "tremendous" and was so glad that Helen had encouraged him to quit.

Carol Southard, RN, MSN, project consultant,
ADHA Smoking Cessation Initiative

Ethical Dilemma

TEEN SMOKER

As you enter the waiting room to call your next patient, Jeremy Reemy, the scent of smoke surrounds you. Jeremy, who is 13 years old, attends the local middle school. His mother has dropped him off for his prophylaxis appointment. You review Jeremy's medical history and are anxious to hear his response to your questions about smoking. At first, he denies the use of tobacco, but upon further pressing, he states, "Yep, I smoke . . . what's the big deal. Both my parents smoke, too." You are disturbed by his response but grateful for his honesty.

1. What do you do to educate Jeremy about the dangers of tobacco use?
2. Is it ethical to share this information with his parents?
3. How can you intervene to make Jeremy aware of the necessity of tobacco cessation?
4. How can you help Jeremy quit smoking?

Through the Eyes of a Patient

LEAVING THE DOOR OPEN

Danielle Rothchild is the dental hygienist in a periodontal practice. She is caring for a new patient, Mr. Marston, who is a heavy smoker. Mr. Marston states that he plans to continue smoking cigarettes despite the likelihood that smoking is a risk factor in his periodontitis and general health.

Danielle does not agree with Mr. Marston's decision, although she believes it to be an informed decision (i.e., he fully understands the implications for both his oral and general health).

- Discuss how Danielle can demonstrate her respect for Mr. Marston's right to make his own decision.
- Is there a way that Danielle could "leave the door open" to future discussions about smoking cessation with Mr. Marston (without

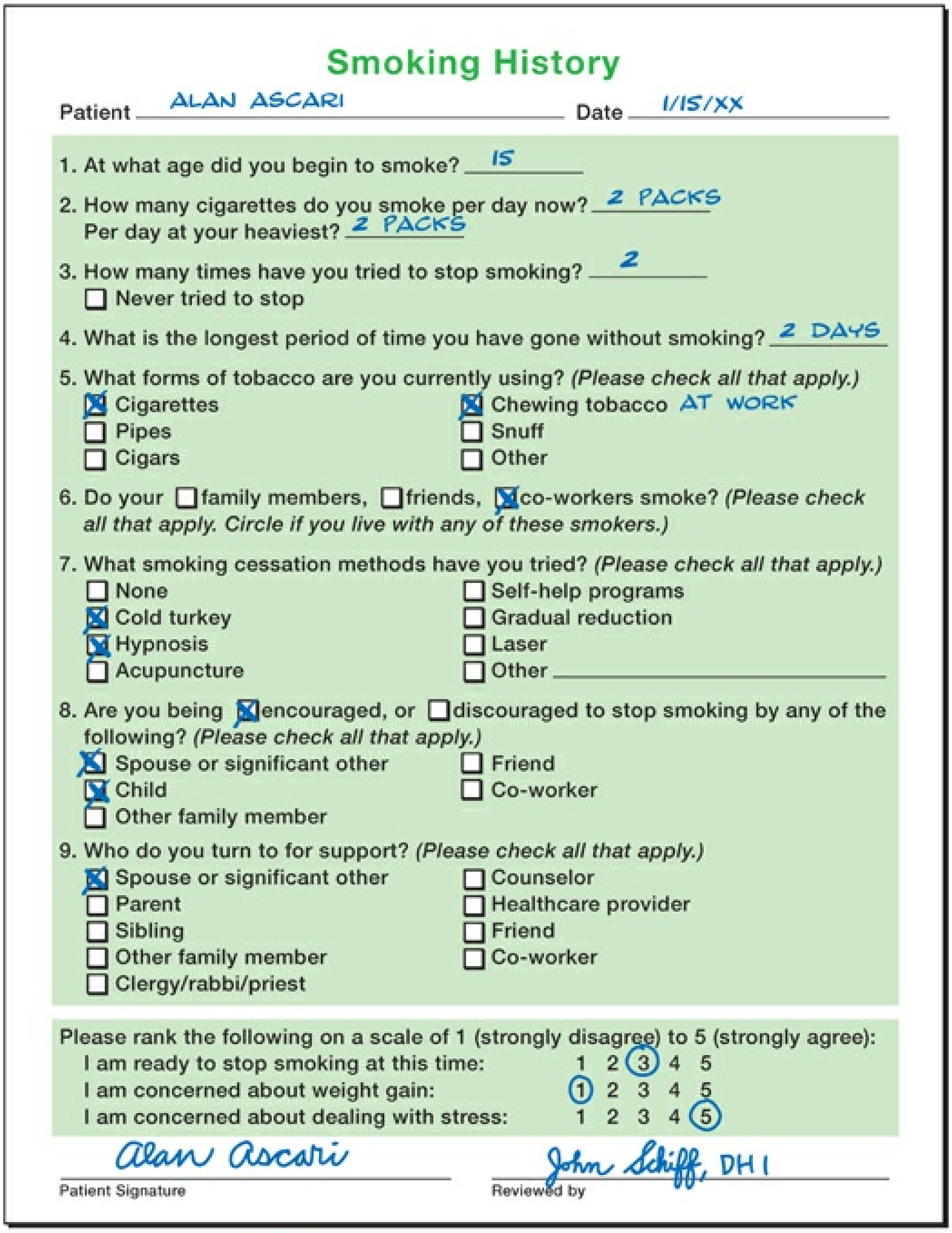
“pushing” her opinions on the patient and without sounding like she is “harping” on the issue)?

SECTION 8 • Practical Focus—Fictitious Patient Case for Tobacco Cessation

DIRECTIONS

FICTITIOUS PATIENT CASE A: MR. ALAN ASCARI

- The fictitious patient case in this module involves patient A, Mr. Alan Ascari.
- While completing the “Practical Focus” section in this module, you should take into account the health history and over-the-counter/prescription drug information that was revealed for Mr. Ascari in Module 5, Medical History, and Module 10, Vital Signs: Blood Pressure.
- Review Mr. Ascari’s Smoking History form in Figure 11-25 located on the next page of this module.
- Using Peak Procedure 11-1 for guidance, role-play tobacco cessation counseling with a classmate portraying Mr. Ascari. Remember to use the patient resource handouts from section during the role-play.



Smoking History

Patient ALAN ASCARI Date 1/15/XX

1. At what age did you begin to smoke? 15
2. How many cigarettes do you smoke per day now? 2 PACKS
   Per day at your heaviest? 2 PACKS
3. How many times have you tried to stop smoking? 2
   ☐ Never tried to stop
4. What is the longest period of time you have gone without smoking? 2 DAYS
5. What forms of tobacco are you currently using? *(Please check all that apply.)*
   - ☒ Cigarettes
   - ☐ Pipes
   - ☐ Cigars
   - ☒ Chewing tobacco AT WORK
   - ☐ Snuff
   - ☐ Other
6. Do your ☐ family members, ☐ friends, ☒ co-workers smoke? *(Please check all that apply. Circle if you live with any of these smokers.)*
7. What smoking cessation methods have you tried? *(Please check all that apply.)*
   - ☐ None
   - ☒ Cold turkey
   - ☒ Hypnosis
   - ☐ Acupuncture
   - ☐ Self-help programs
   - ☐ Gradual reduction
   - ☐ Laser
   - ☐ Other ____________
8. Are you being ☒ encouraged, or ☐ discouraged to stop smoking by any of the following? *(Please check all that apply.)*
   - ☒ Spouse or significant other
   - ☒ Child
   - ☐ Other family member
   - ☐ Friend
   - ☐ Co-worker
9. Who do you turn to for support? *(Please check all that apply.)*
   - ☒ Spouse or significant other
   - ☐ Parent
   - ☐ Sibling
   - ☐ Other family member
   - ☐ Clergy/rabbi/priest
   - ☐ Counselor
   - ☐ Healthcare provider
   - ☐ Friend
   - ☐ Co-worker

Please rank the following on a scale of 1 (strongly disagree) to 5 (strongly agree):

I am ready to stop smoking at this time: 1 2 [✓ 3] 4 5
I am concerned about weight gain: [✓ 1] 2 3 4 5
I am concerned about dealing with stress: 1 2 3 4 [✓ 5]

Alan Ascari
Patient Signature

John Schiff, DH I
Reviewed by

FIGURE 11-25 Mr. Ascari's completed Smoking History form.

SECTION 9 • Skill Check

Skill Checklist: Role-Play Tobacco Cessation Counseling

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Asks the patient if he or she uses tobacco.		
Advises the patient that quitting is important for wellness and longevity. Asks the patient if he or she is interested in learning about tobacco cessation.		
Encourages patient questions about the health risks of tobacco use and the tools for tobacco cessation.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Provides the patient with quitline telephone numbers or websites and patient education materials on tobacco cessation.		
OPTIONAL GRADE PERCENTAGE		

CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

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MODULE

12

SOFT TISSUE LESIONS

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module discusses recognition of soft tissue lesions of the skin and oral mucosa. It presents a systematic approach to describing pertinent characteristics of soft tissue lesions. The ability to formultate a concise, accurate verbal and written description of any lesion is a necessary skill when communicating and documenting findings from the extraoral and intraoral examination.

This module covers:

- Recognizing the primary types of soft tissue lesions
- Formulating a written description of a soft tissue lesion
- Prevention of skin and oral cancers

MODULE OUTLINE

SECTION 1 **Learning to Look at Lesions**

Why Look for Lesions?
Cancer Facts and Statistics
What Is a Soft Tissue Lesion?
Characteristics of Soft Tissue Lesions

Basic Types of Soft Tissue Lesions
The ABCD-T Mnemonic for Formulating Lesion Descriptions

SECTION 2 **Peak Procedure: Describing Lesions**
Procedure 12-1. Determining and Describing Lesion Characteristics

SECTION 3 **Detection Tools**

SECTION 4 **Ready References**
Lesion Descriptor Worksheet
Ready Reference 12-1. Characteristics of Common Cancerous Lesions

SECTION 5 **The Human Element**
Through the Eyes of a Student
Communication Scenario

SECTION 6 **Practical Focus—Describing and Documenting Lesions**

KEY TERMS

Soft tissue lesion • **Regular** • **Irregular** • **Smooth** • **Raised** • **Discrete** • **Grouped** • **Confluent** • **Linear** • **Macule** • **Patch** • **Papule** • **Plaque** • **Nodule** • **Wheal** • **Vesicle** • **Bulla** • **Pustule** • **Erosion** • **Ulcer** • **Fissure** • **ABCD-T**

OBJECTIVES

- Explain the importance of inspecting the head, neck, and oral cavity for the presence of soft tissue lesions.
- Given an image of a lesion, use the Lesion Descriptor Worksheet (located in this module) to identify the location and characteristics of the lesion and to develop a written description of the lesion.

- Demonstrate knowledge of soft tissue lesions by applying information from this module to the fictitious patient cases A to E found in Modules 13 and 14.

NOTE TO COURSE INSTRUCTOR: Skill checklists and fictitious patient cases A to E for this topic are located in Modules 13 (Head and Neck Examination) and 14 (Oral Examination).

SECTION 1 • Learning to Look at Lesions

Inspection of the skin and oral mucosa for soft tissue lesions is an important part of every head and neck examination and intraoral examination. By performing routine screenings, dental health care providers can reduce deaths from skin, oral, and pharyngeal cancers.

Why Look for Lesions?

The most effective approach to decreasing the number of deaths associated with soft tissue cancers is through early detection and appropriate treatment and referral.[1–5] In June 2003, the American Dental Association (ADA) launched a campaign urging dental professionals to examine patients for signs of early soft tissue lesions. Most Americans visit a dental office or clinic at least once a year. For this reason, dental health care providers have a unique opportunity to help decrease skin and oral cancer rates by routinely performing head, neck, and intraoral examinations. Early detection of skin and oral cancers is critical in the prevention of cancer deaths. When detected at its earliest stage, skin and oral cancers are more easily treated and cured.

Cancer Facts and Statistics

1. **Skin Cancer**
   a. Skin cancer is the most common of all cancer types.
   b. More than 1 million skin cancers are diagnosed each year in the

    United States. The number of skin cancers has been on the rise steadily for the past 30 years.
    c. There are two main types of skin cancers—melanomas and nonmelanomas.
    d. Melanomas are much more likely to spread to other parts of the body and account for over 60% of skin cancer deaths. ***Melanoma is almost always curable in its early stages.***
    e. Nonmelanomas—such as basal cell and squamous cell cancers—are the most common cancers of the skin. Nonmelanomas rarely spread elsewhere in the body and are less likely than melanomas to be fatal.
2. **Oral and Pharyngeal Cancer**
    a. The Surveillance, Epidemiology, and End Results (SEER) Program of the National Cancer Institute (NCI) is an authoritative source of information on cancer incidence and survival in the United States. In 2013, there were an estimated 300,682 people living with oral cavity and pharynx cancer in the United States.
    b. More than 1 in 4 people affected with oral cancer will die—about one person each hour. According to the American Cancer Society, oral cancer claims almost as many lives as melanoma cancer.

What Is a Soft Tissue Lesion?

A **soft tissue lesion** is an area of abnormal-appearing skin or mucosa that does not resemble the soft tissue surrounding it. Lesions are variations in color, texture, or form of an area of skin or mucosa. A soft tissue lesion may be:

- Present at birth—such as a mole or birthmark
- Associated with an infection—such as warts or acne
- Associated with an allergic reaction—such as hives
- Associated with an injury—such as a blister from a burn or scar from a cut

Characteristics of Soft Tissue Lesions

LESION BORDER TRAITS

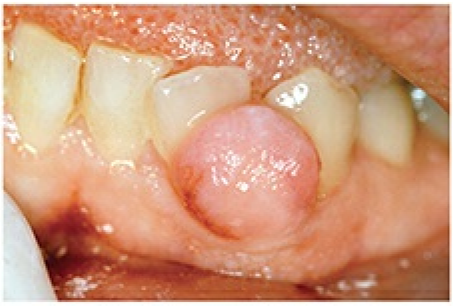


FIGURE 12-1 **Regular border.** The border of a lesion is **regular** if it resembles a symmetrical circle or an oval shape.

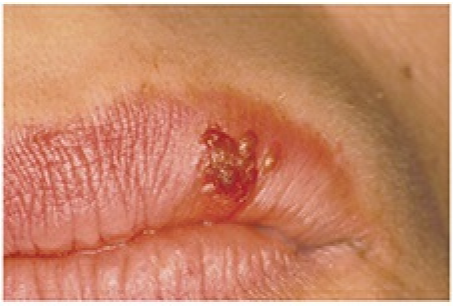


FIGURE 12-2 **Irregular border.** The border of a lesion is **irregular** if it is not uniform or has deviations from a circular or oval shape.

LESION MARGIN TRAITS

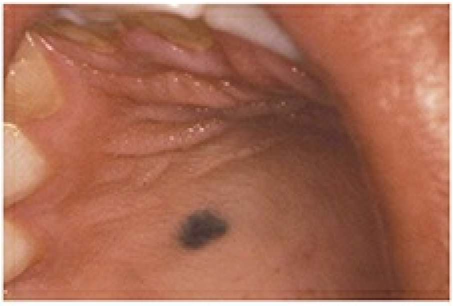


FIGURE 12-3 **Smooth margin.** The margin of a lesion is **smooth** if it is level with the surface of the lesion.

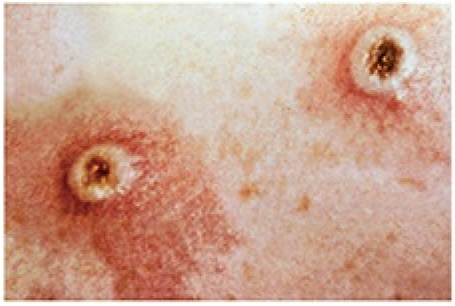


FIGURE 12-4 **Raised margin.** The margin of a lesion is **raised** if it is above the level of the surface of the lesion.

LESION COLOR

Lesions can be red, white, red and white, blue, yellow, brown, or black. Some examples are shown here.[6–9]

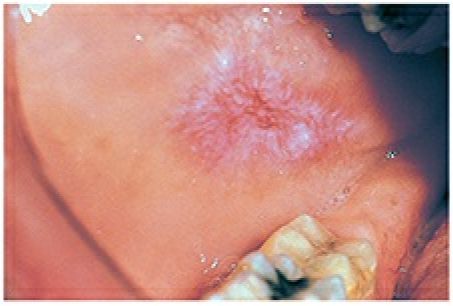


FIGURE 12-5 Red and white lesion. Shown here is an example of a white lesion on the buccal mucosa.

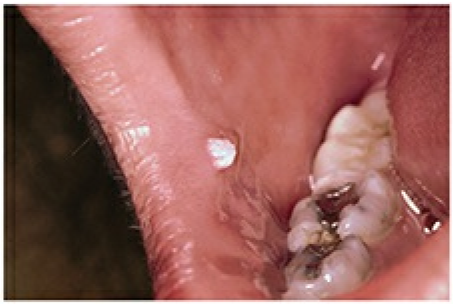


FIGURE 12-6 White lesion. Shown here is an example of a raised white lesion on the buccal mucosa.

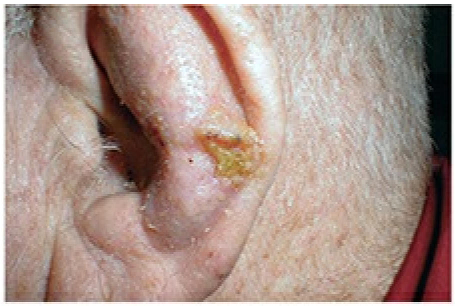


FIGURE 12-7 Yellow lesion. Shown here is a yellow, crusty lesion on the ear.

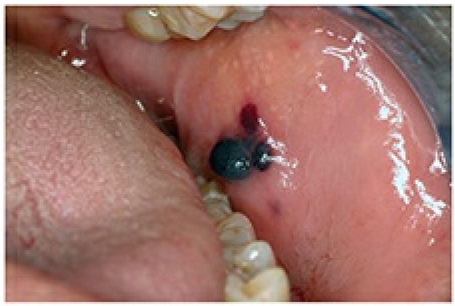


FIGURE 12-8 Blue lesion. Shown here is a group of blue lesions on the buccal mucosa.

COMMON LESION CONFIGURATIONS

Configuration refers to the way that multiple lesions are arranged.

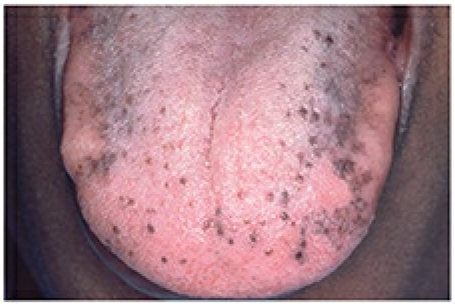


FIGURE 12-9 **Discrete configuration.** **Discrete** lesions are individual lesions that are separate and distinct from one another. The individual tiny areas (spots) of brown pigmentation on this tongue are examples of discrete lesions.

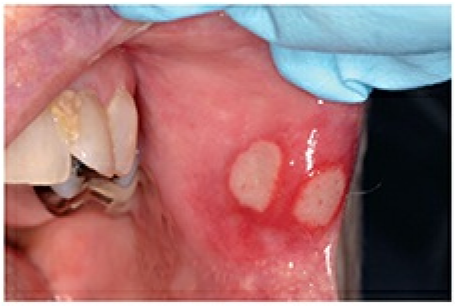


FIGURE 12-10 **Grouped configuration.** Lesions that are clustered together are described as **grouped**.

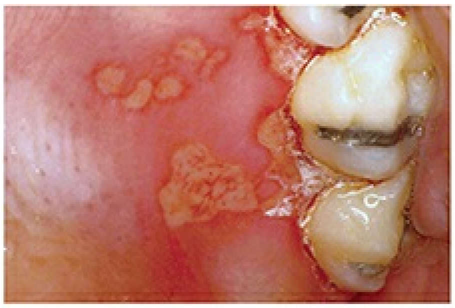


FIGURE 12-11 **Confluent configuration.** Lesions that have merged together so that individual lesions are not distinguishable are termed **confluent**.

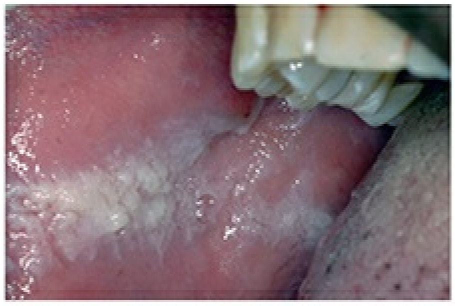


FIGURE 12-12 **Linear configuration.** Lesions that form a line have a **linear** configuration.

Basic Types of Soft Tissue Lesions

FLAT LESIONS

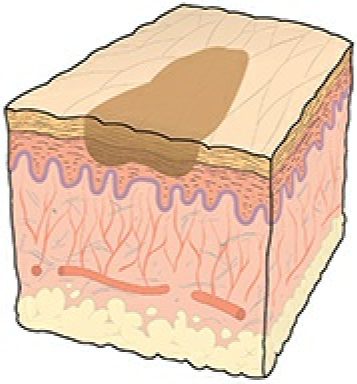


FIGURE 12-13 **Flat lesion.** A flat lesion is one in which the ***surface of the lesion is the same as the normal level*** of the skin or oral mucosa. The only way that flat lesions can be detected is through a change in color from the surrounding skin or oral mucosa.

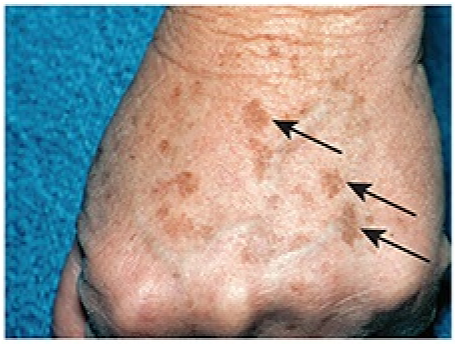


FIGURE 12-14 **Macule.** A **macule** is a small flat, discolored spot on the skin or mucosa that does not include a change in skin texture or thickness.

- A macule is less than 1 cm in size; the discoloration can be brown, black, red, or lighter than the surrounding skin.
- Examples: freckles, petechia, amalgam tattoo

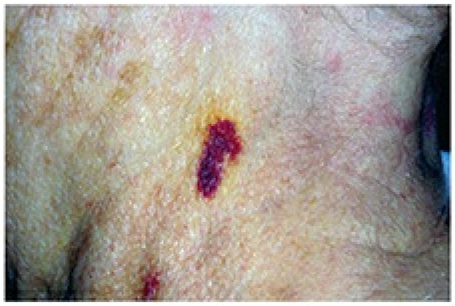


FIGURE 12-15 **Macule.** This flat red lesion is an example of a macule on a patient's neck.

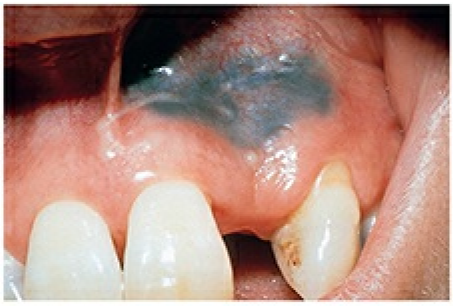


FIGURE 12-16 **Patch.** A **patch** is a flat, discolored spot on the skin or mucosa.

- A patch is larger than 1 cm in size.
- Examples: lichen planus, snuff dipper's patch, port wine stain, amalgam tattoo

ELEVATED LESIONS

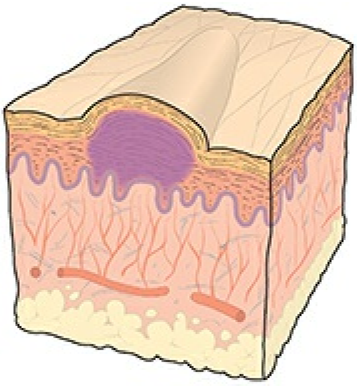


FIGURE 12-17 **Elevated lesion.** An elevated lesion is one in which the ***surface of the lesion is raised above*** the normal level of the skin or oral mucosa.[10]

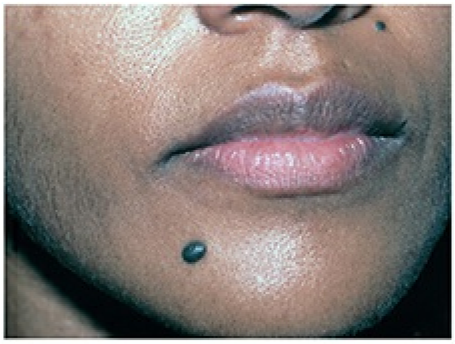


FIGURE 12-18 **Papule.** A **papule** is a solid raised lesion that is usually less than 1 cm in diameter.

- A papule may be any color.
- Example: an elevated mole

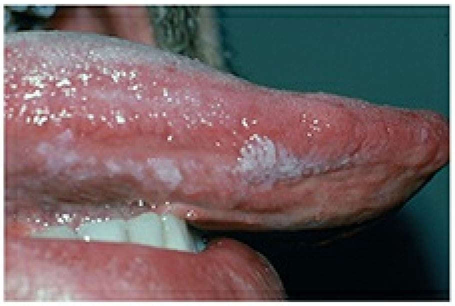


FIGURE 12-19 **Plaque.** A **plaque** is a superficial raised lesion often formed by the coalescence (joining) of closely grouped papules.

- A plaque is more than 1 cm in diameter; a plaque differs from a nodule in its height; a plaque is flattened, and a nodule is a bump.
- Examples: leukoplakia, psoriasis

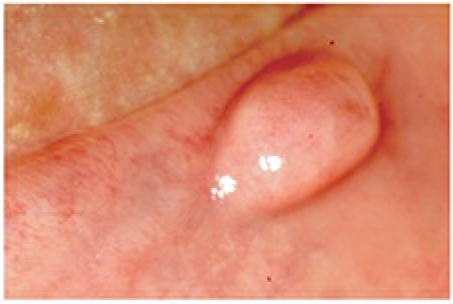


FIGURE 12-20 **Nodule.** A **nodule** is a raised marble-like lesion detectable by touch, usually 1 cm or more in diameter.

- It can be felt as a hard mass distinct from the tissue surrounding it.
- Examples: wart, basal cell carcinoma, melanoma, enlarged lymph node

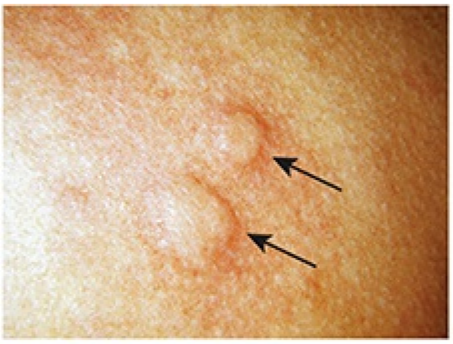


FIGURE 12-21 **Wheal.** A **wheal** is a raised, somewhat irregular area of localized edema.

- Wheals are often itchy, lasting 24 hours or less; usually due to an allergic reaction, such as to a drug or insect bite.
- Examples: mosquito bite, hives

FLUID-FILLED LESIONS

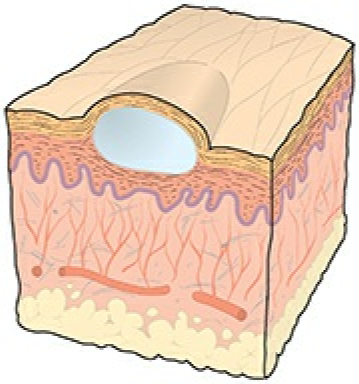


FIGURE 12-22 **Fluid-filled lesion.** A fluid-filled lesion is an elevated lesion filled with clear fluid or pus.

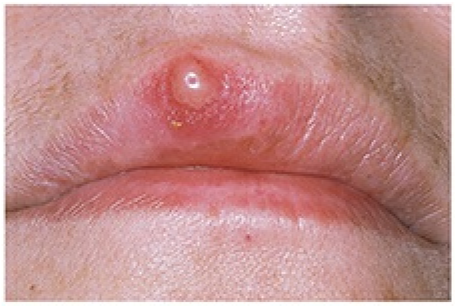


FIGURE 12-23 **Vesicle.** A **vesicle** is a small blister filled with fluid.[11]

- A vesicle usually is 1 cm or less in diameter.
- Examples: herpes simplex, herpes zoster, chickenpox, and smallpox lesions

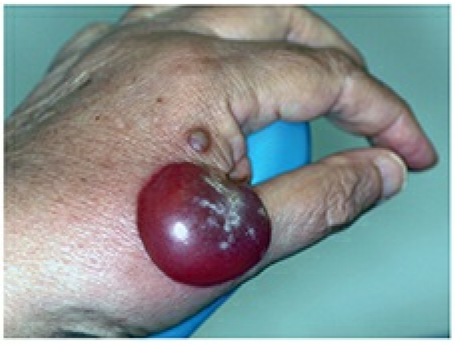


FIGURE 12-24 **Bulla.** A **bulla** is a large blister filled with fluid.

- A bulla is usually over 1 cm in diameter.
- Example: blister as seen in burns or from trauma

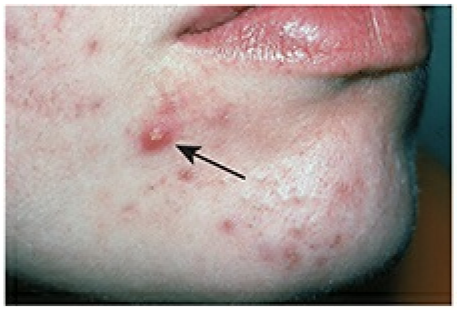


FIGURE 12-25 **Pustule.** A **pustule** is a small raised lesion filled with pus.

- Examples: acne, boil, abscess

DEPRESSED LESIONS

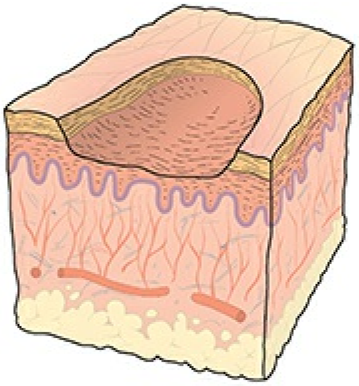


FIGURE 12-26 **Depressed lesion.** A depressed lesion is one in which the surface of the lesion is below the normal level of the skin or oral mucosa. **Erosion** is the loss of the top layer of skin.

Most depressed lesions are ulcers.[12–16] The depth of a depressed lesion is the distance from the base to the top of the lesion's margin. The depth of a lesion may be superficial or deep.

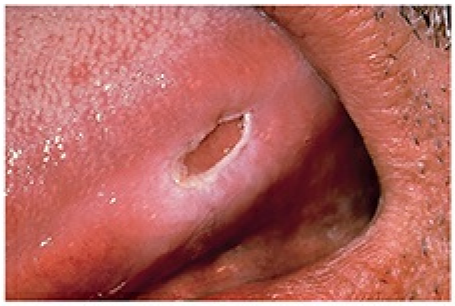


FIGURE 12-27 **Ulcer.** An **ulcer** is a craterlike lesion of the skin or mucosa where the top two layers of the skin are lost.

- The depth is superficial if it is less than 3 mm.
- Examples: aphthous ulcer, chickenpox lesions

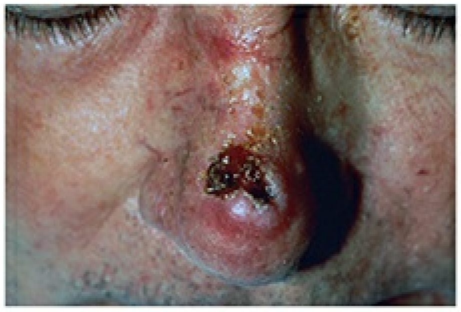


FIGURE 12-28 **Deep ulcer.** An example of a deep ulcer with a depth that is more than 3 mm in depth.

LINEAR CRACKS

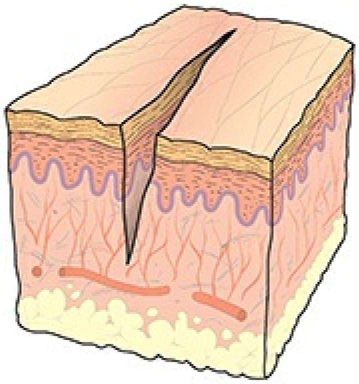


FIGURE 12-29 **Crack.** A crack is a linear break in the surface of the skin or mucosa.

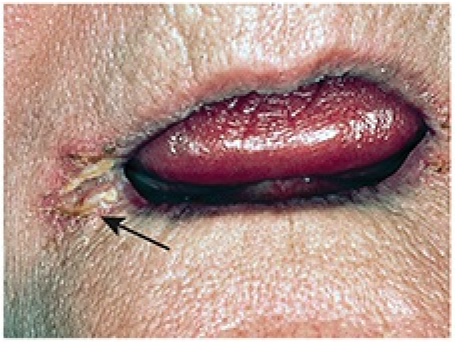


FIGURE 12-30 **Fissure.** A **fissure**—a linear crack in the top two layers of the skin or mucosa.

- Examples: fissured tongue, angular cheilitis

The ABCD-T Mnemonic for Formulating Lesion Descriptions

The description a soft tissue lesion has two components: (1) ***characteristics of the lesion*** and (2) ***type of lesion***. A lesion's characteristics include its anatomic location, border traits, color, configuration, and diameter or dimensions. Primary types of lesions are flat, elevated, fluid-filled, and depressed lesions.

Because each lesion has so many characteristics, it is common for clinicians to feel overwhelmed when trying to create a verbal description of a lesion. To assist clinicians in remembering the characteristics to document, it is helpful to use the letters **ABCD-T** as a memory device (Box 12-1).

BOX **12-1**

Remembering What to Look For

Use the letters **A**, **B**, **C**, **D**, and **T** as a memory device to remember the characteristics to look for on a lesion.

A—Anatomic location
B—Border
C—Color and configuration
D—Diameter or dimensions
T—Type

SECTION 2 • Peak Procedure: Describing Lesions

Procedure 12-1. Determining and Describing Lesion Characteristics

Action	Rationale
1. **Determine lesion characteristics.** Use the **Lesion Descriptor Worksheet** (Fig. 12-31A–B) from the “Ready References” section of this module. Circle or highlight the words that describe the lesion.	• The Lesion Descriptor Worksheet makes it easy to identify the characteristics of a particular lesion.
A—Anatomic location. Describe the anatomic location of the lesion.	• This allows other clinicians to locate the lesion from your written description.
B—Border. Examine the lesion to see if the border is symmetrical (having balanced proportions, equal halves from the center	• An asymmetrical lesion with an irregular border may indicate a malignant lesion.

dividing line) or asymmetrical (unequal halves). Examine the border to see if it is well demarcated, regular, or irregular.	
C—Color and configuration. Note the color of the lesion. Record the configuration of the lesion(s). Is this a single lesion? Are the lesions separate, clustered together, grouped, confluent, or linear?	• Lesions can change color over time. A color change may indicate a malignant lesion. • Many skin diseases have lesions in a typical configuration.
D—Diameter or dimensions. Measure the size of the lesion using a plastic millimeter ruler if the lesion is on the skin. Use a periodontal probe for intraoral lesions.	• Over time, a change in size may indicate a malignant lesion.
T—Type. Identify the type of lesion such as macule, vesicle, etc.	• The type of lesion is an important component of the description of a lesion.
2. Document lesion location. Indicate the	• The rationale for drawing the lesion is NOT to create an artistic likeness of it.

location of lesion on the appropriate illustration on the Lesion Descriptor Worksheet.	• Drawing the lesion on an anatomical illustration assists other clinicians in quickly locating the lesion now and at future appointments, if applicable.

3. **Develop a written description.** After circling or highlighting the words on the **Lesion Descriptor Worksheet** that pertain to the lesion, you are ready to formulate a description for the lesion.

   For example:
   A—Anatomic location: left buccal mucosa near tooth #14
   B—Border: well-demarcated
   C—Color and configuration: blue; single lesion
   D—Diameter or dimensions: 4 mm × 2mm
   T—Type: macule

4. **Finalize the description.** Next, use the outline to create a description and enter it at the bottom of page 2 of the **Lesion Descriptor Worksheet**.

   For example using the words outlined above, the description might be: *On the left buccal mucosa near tooth #14, a single, well-demarcated, blue, 4 mm × 2 mm macule.*

5. **Document the lesion.** Enter the lesion description and date in the patient's chart or computerized record.

SECTION 3 • Detection Tools

In the dental setting, the three primary tools for the detection of soft tissue lesions on the head and neck or oral cavity are the head and neck examination, oral examination, and patient history. Medical history questionnaires should include questions that elicit information about tobacco and alcohol use as well as interest in smoking cessation programs. Box 12-2 outlines the role of a dental professional in cancer detection.

BOX 12-2

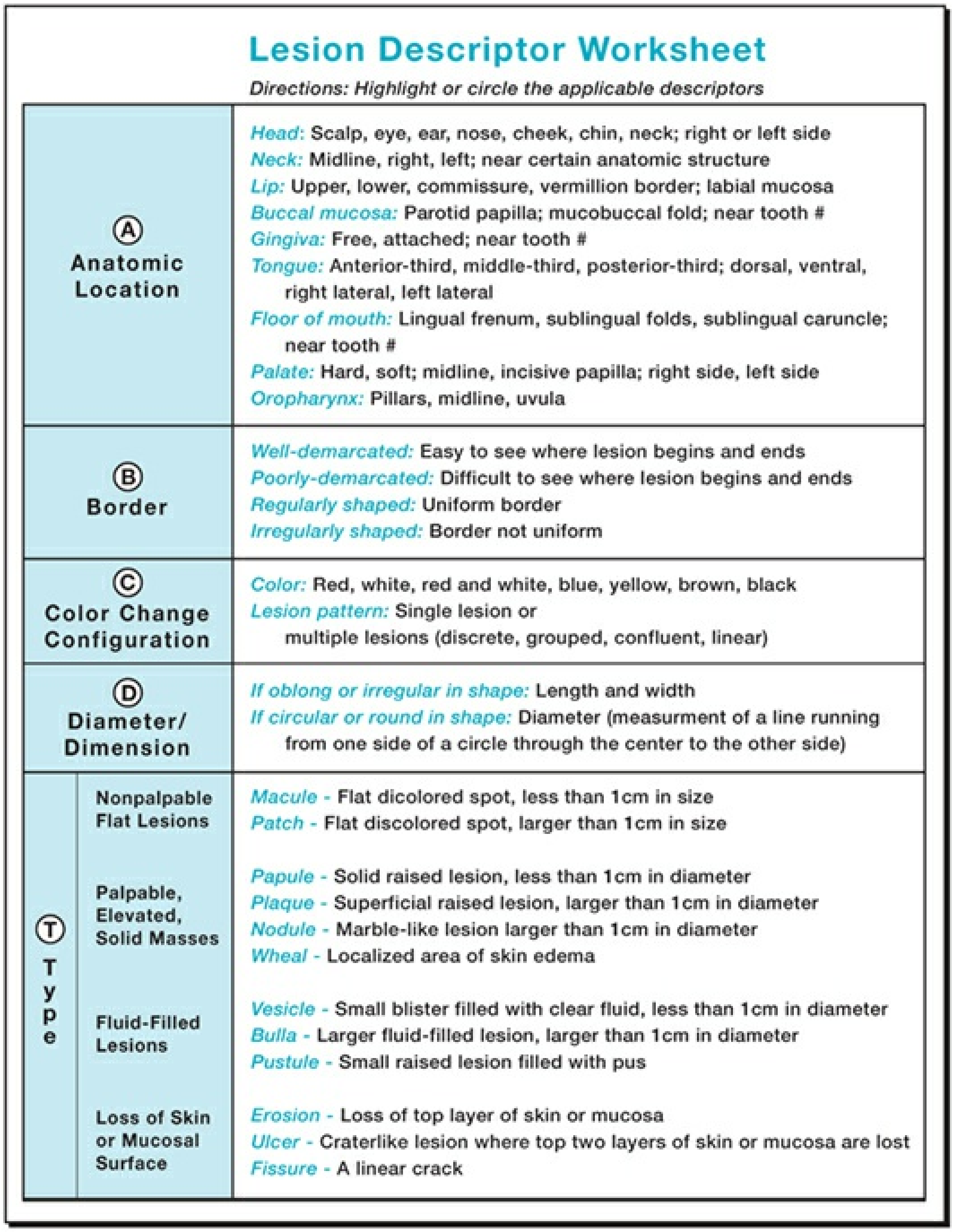
Dental Professional's Role in Cancer Detection

A thorough examination of the head, neck, and oral cavity should be a routine part of each dental visit. Clinicians should be particularly vigilant with patients who use tobacco and alcohol.

- **EXAMINE** the patient at each visit using a systematic visual inspection of the head, neck, and oral cavity.
- **ENSURE** the health history questionnaire elicits information about tobacco and alcohol use.
- **EDUCATE** the patient that tobacco and alcohol use dramatically increases the risk of oral cancer.
- **IDENTIFY** and document any suspicious soft tissue lesions.
- **REFER** to a dermatologist—for skin lesions—or an oral maxillofacial surgeon—for oral lesions—to obtain a definitive diagnosis of the suspicious lesion.
- **FOLLOW UP** to make sure that a definitive diagnosis was obtained.

SECTION 4 • Ready References

Lesion Descriptor Worksheet

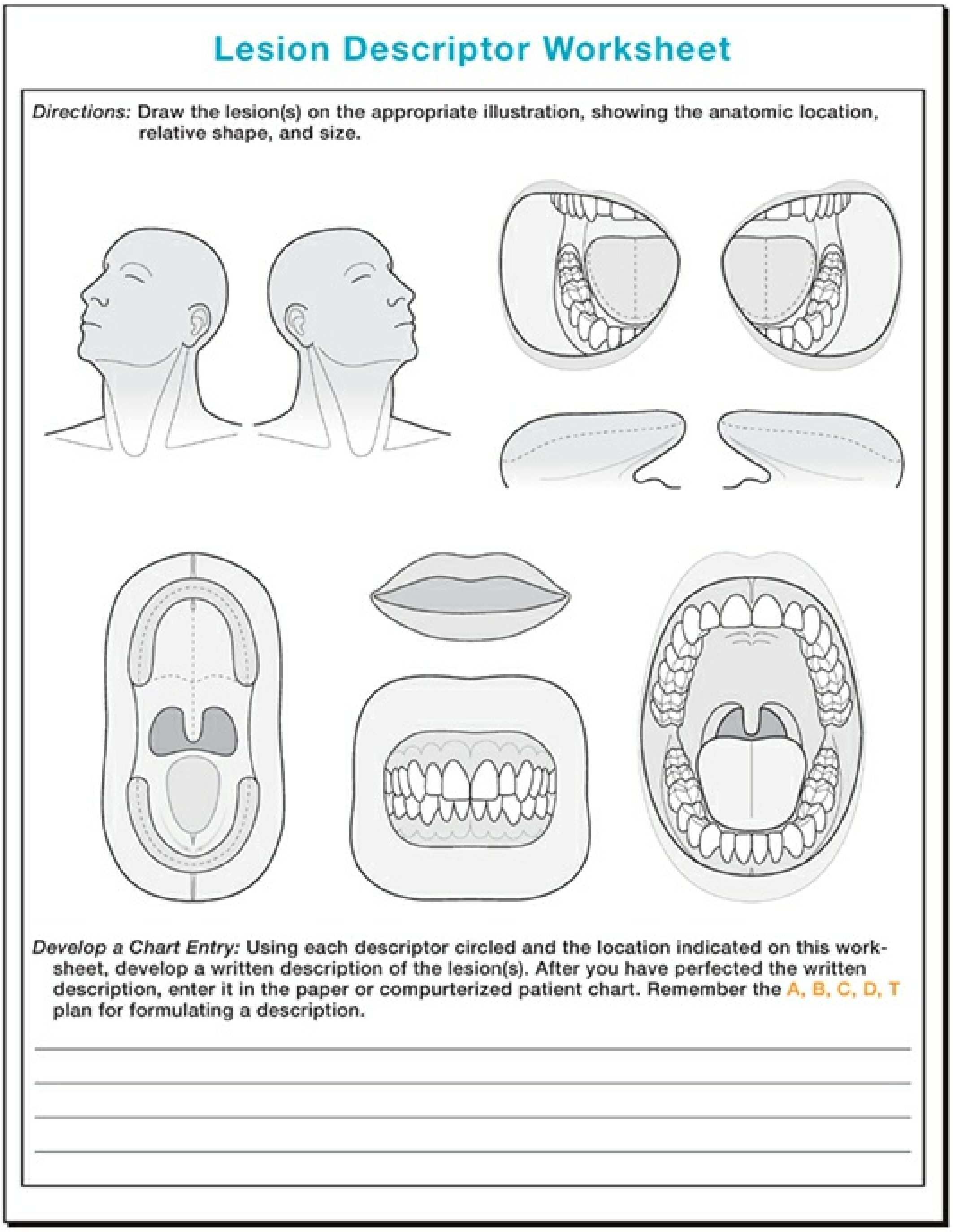


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurment of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule -* Flat dicolored spot, less than 1cm in size *Patch -* Flat discolored spot, larger than 1cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1cm in diameter *Plaque -* Superficial raised lesion, larger than 1cm in diameter *Nodule -* Marble-like lesion larger than 1cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 12-31A Page 1 of the Lesion Descriptor Worksheet.



Lesion Descriptor Worksheet

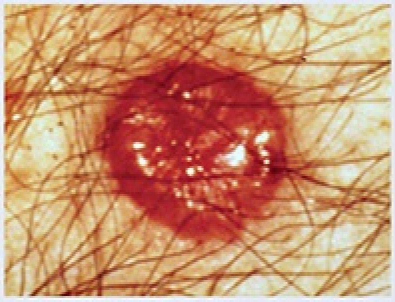
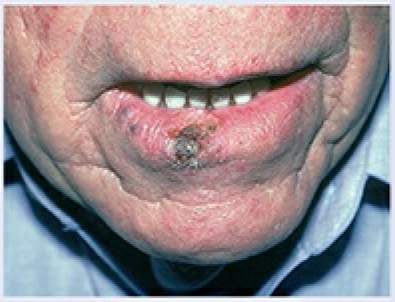
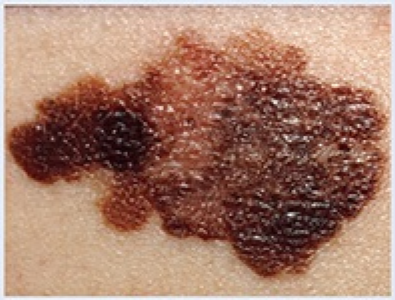
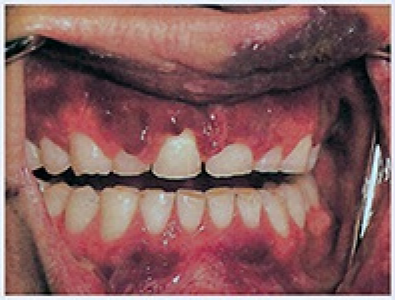
Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or compurterized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-31B Page 2 of the Lesion Descriptor Worksheet.

Ready Reference 12-1. Characteristics of Common Cancerous Lesions

Type	Appearance

Basal cell carcinoma **60% of skin cancers** **A**—face **B**—round at first, later irregular **C**—skin-colored, pink, dark brown, black	 FIGURE 12-32A
Squamous cell carcinoma **20% of skin cancers** **A**—areas exposed to sunlight; lip **B**—poorly demarcated raised border; raised border with central ulceration [17,18] **C**—skin-colored, reddened; new lesions may appear near old ones	 FIGURE 12-32B
Malignant melanoma **Accounts for over 60% of skin cancer deaths** **A**—areas exposed to sunlight **B**—becomes irregular as it grows **C**—may have pink or red halo	 FIGURE 12-32C
Kaposi's sarcoma **A**—skin; mucous membranes **B**—raised border; well demarcated **C**—intense red, blue, or brown: color does not blanch	 FIGURE 12-32D

Through the Eyes of a Student

TOBACCO USE AND THE ORAL EXAM

WARNING: This product can
mouth cancer.

Our school had just switched to a new medical history form, and the new form has two columns of information. Even after using this new form for some time, I think that it is easy to miss some of the questions when reviewing the patient's answers.

Today, I was seeing a new patient, Mr. U. I had forgotten to look at the tobacco use question. So, I did not read that my patient had been chewing tobacco for over 10 years. If I had read this information, I would not have made my next mistake.

I did a quick oral exam and accidentally overlooked some suspicious tissue changes on the lower anterior mucolabial fold. I did not notice until my instructor came to assist me. She showed me where Mr. U. held his tobacco in his mouth and how the tissue looked different. He had what would be considered precancerous tissue changes. I explained to Mr. U. the risk of developing cancer, and he seemed ready to change this habit. I may have helped to save my patient's life or at least decreased his risk of developing oral cancer. You can bet that I will never take the oral exam lightly ever again.

Kimberly, student,
Tallahassee Community College

Communication Scenario

QUESTIONING SKILLS

This scenario focuses on your question-asking and problem-solving skills. You are a dental hygienist working with an elderly female client, Mrs. Nguyen, who has been diagnosed with advanced Alzheimer disease. The oral exam reveals that she has a severe burn on the roof of her mouth. Mrs. Nguyen was accompanied to her appointment by her elderly husband and her daughter. It is your responsibility to determine how the patient burned the roof of her mouth.

Working on your own, write down what your first three questions would be. Be able to defend your questions by describing the following:

- What exactly would you ask? Exactly how would you word your questions?
- Why would these be your first three questions?
- Whom would you ask?
- Where—what location in the dental office—would you ask your questions?

Compare your questions with those of your classmates. This scenario focuses on your question-asking and problem-solving skills.

SECTION 6 • Practical Focus—Describing and Documenting Lesions

DIRECTIONS

- Use the steps outlined in **Procedures 12-1** and the **Lesion Descriptor Worksheet** to develop descriptions for the four lesions in this section.
- An example is provided as a guide for completing this section of the module.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

EXAMPLE

Location: mucosa of left cheek

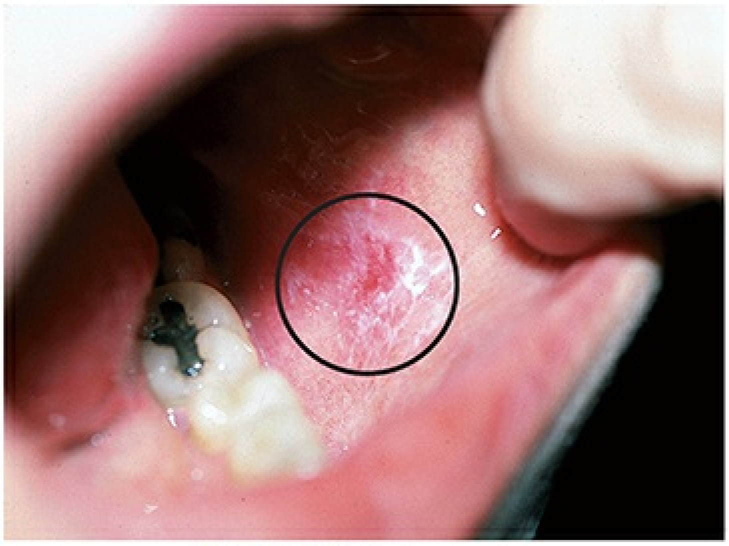
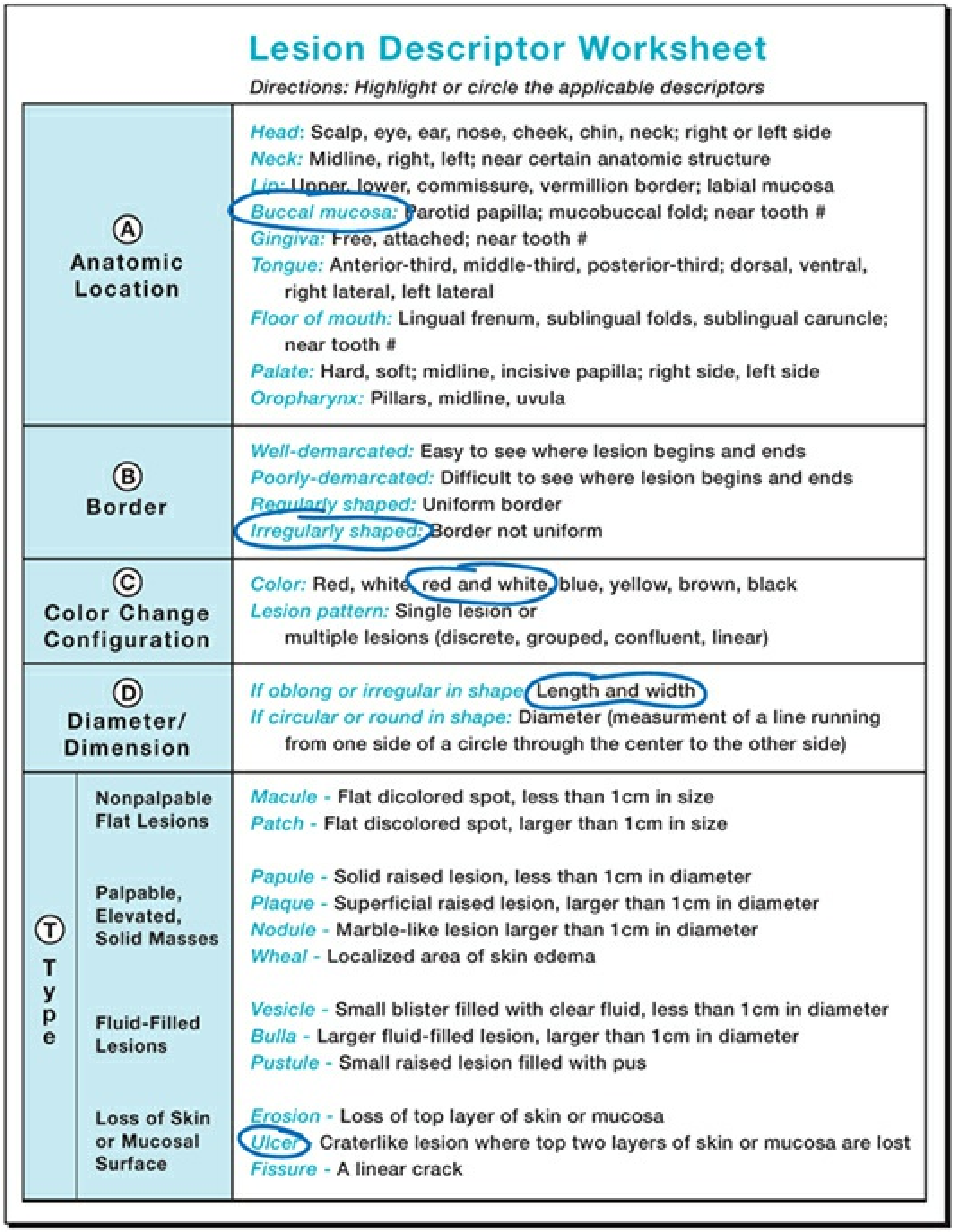


FIGURE 12-33 Lesion example.

EXAMPLE: Worksheet page 1



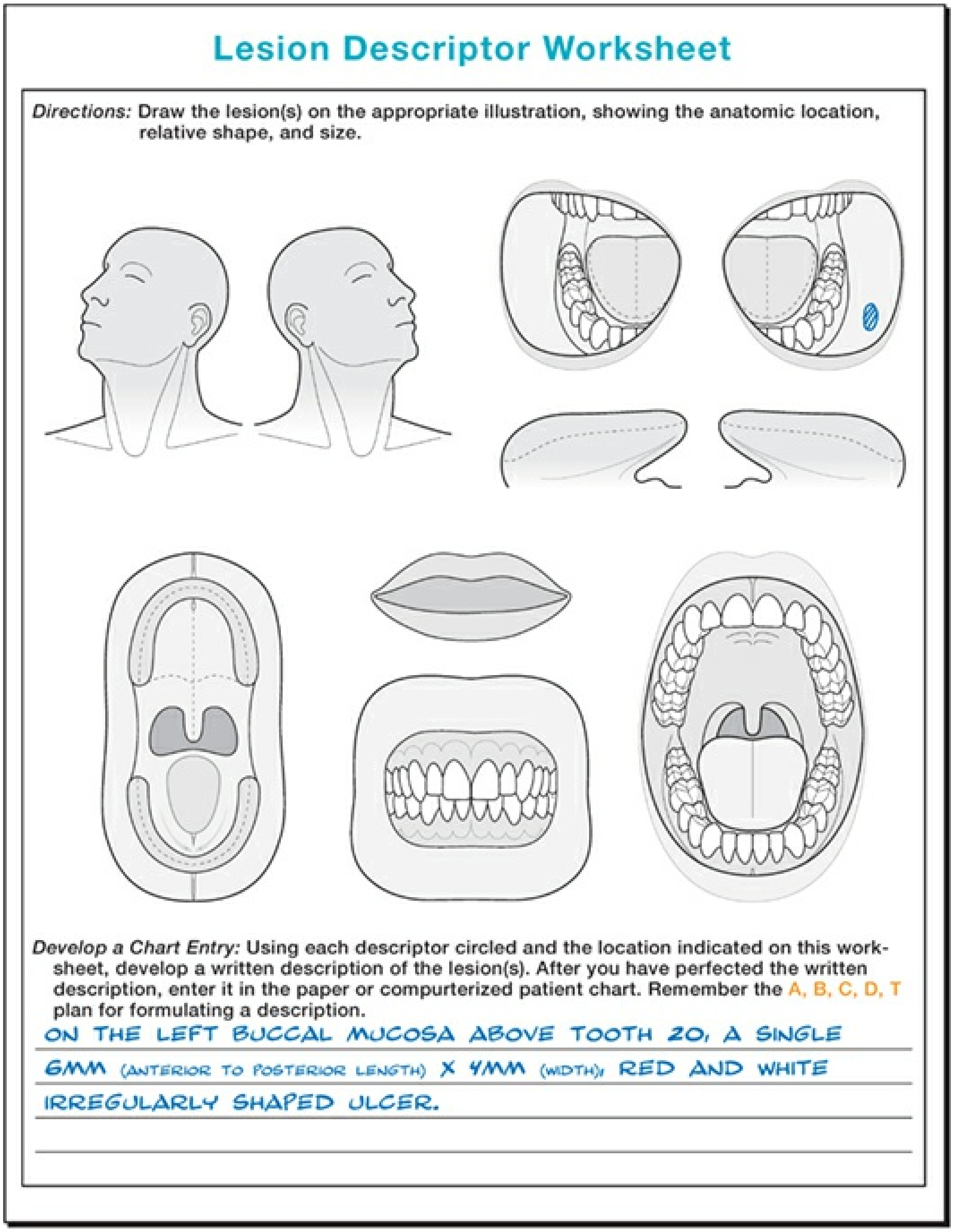
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa [✓ *Buccal mucosa:*] Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border [✓ *Irregularly shaped:*] Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, [✓ red and white,] blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* [✓ Length and width] *If circular or round in shape:* Diameter (measurment of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat dicolored spot, less than 1cm in size *Patch* - Flat discolored spot, larger than 1cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1cm in diameter *Plaque* - Superficial raised lesion, larger than 1cm in diameter *Nodule* - Marble-like lesion larger than 1cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa [✓ *Ulcer*] - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-34A Page 1 of Lesion Descriptor Worksheet for example lesion.

EXAMPLE: Worksheet page 2



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or compurterized patient chart. Remember the A, B, C, D, T plan for formulating a description.

ON THE LEFT BUCCAL MUCOSA ABOVE TOOTH 20, A SINGLE 6MM (ANTERIOR TO POSTERIOR LENGTH) X 4MM (WIDTH), RED AND WHITE IRREGULARLY SHAPED ULCER.

FIGURE 12-34B Page 2 of Lesion Descriptor Worksheet for example lesion.

LESION 1

Location: palate, right side of midline

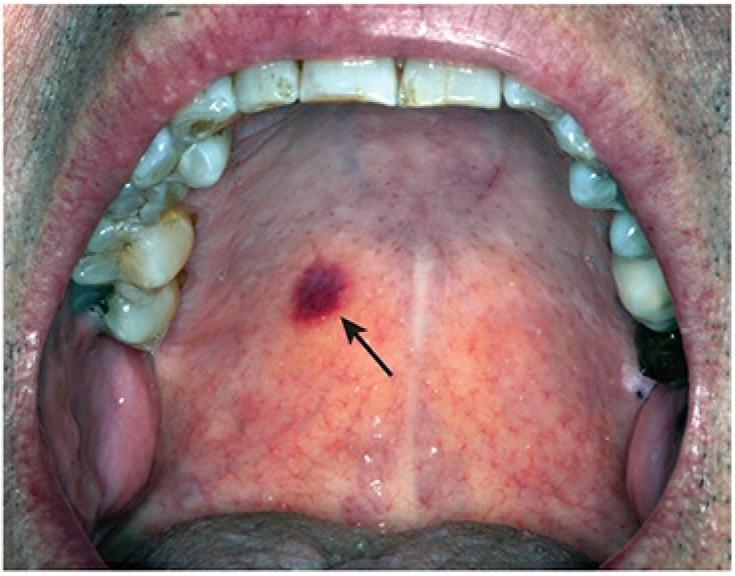
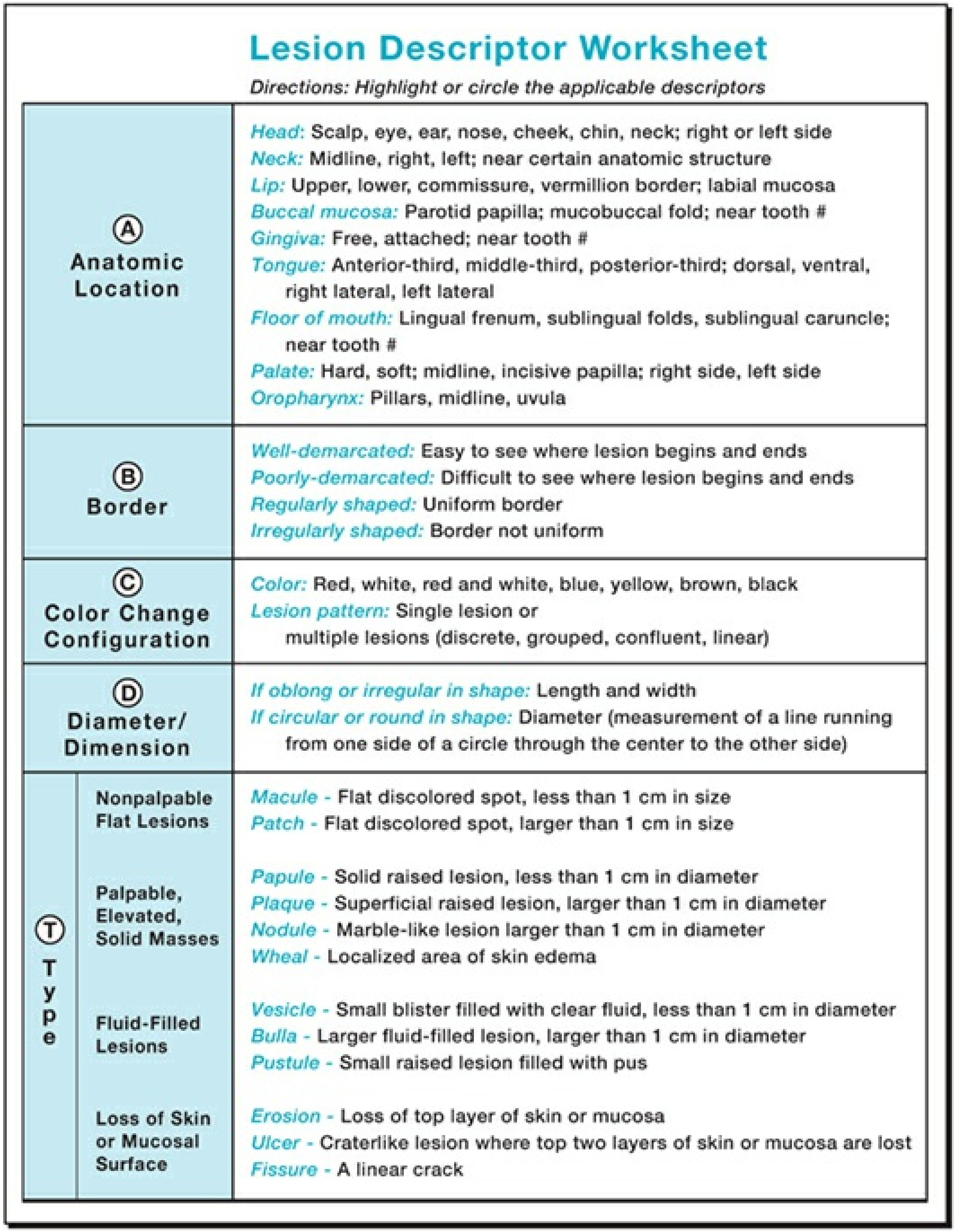


FIGURE 12-35 Lesion 1.

LESION 1



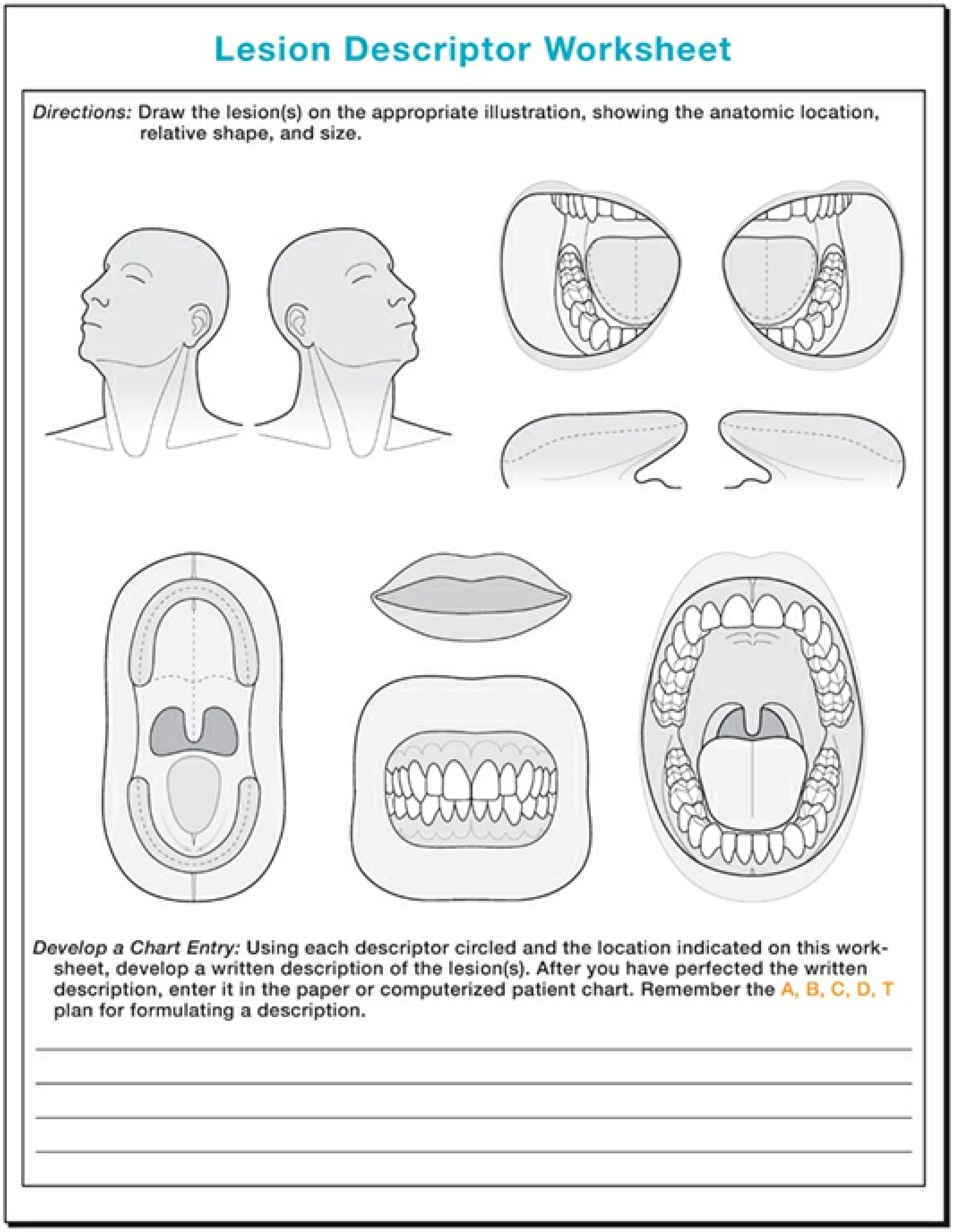
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-36A Page 1 of Lesion Descriptor Worksheet for use with lesion 1.

LESION 1



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-36B Page 2 of Lesion Descriptor Worksheet for use with lesion 1.

LESION 2

Location: mucosa of right cheek

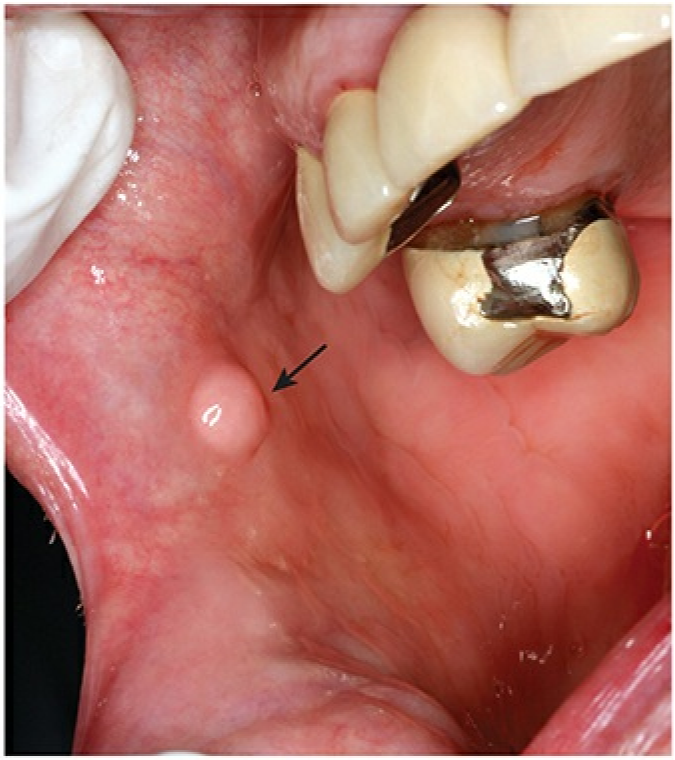
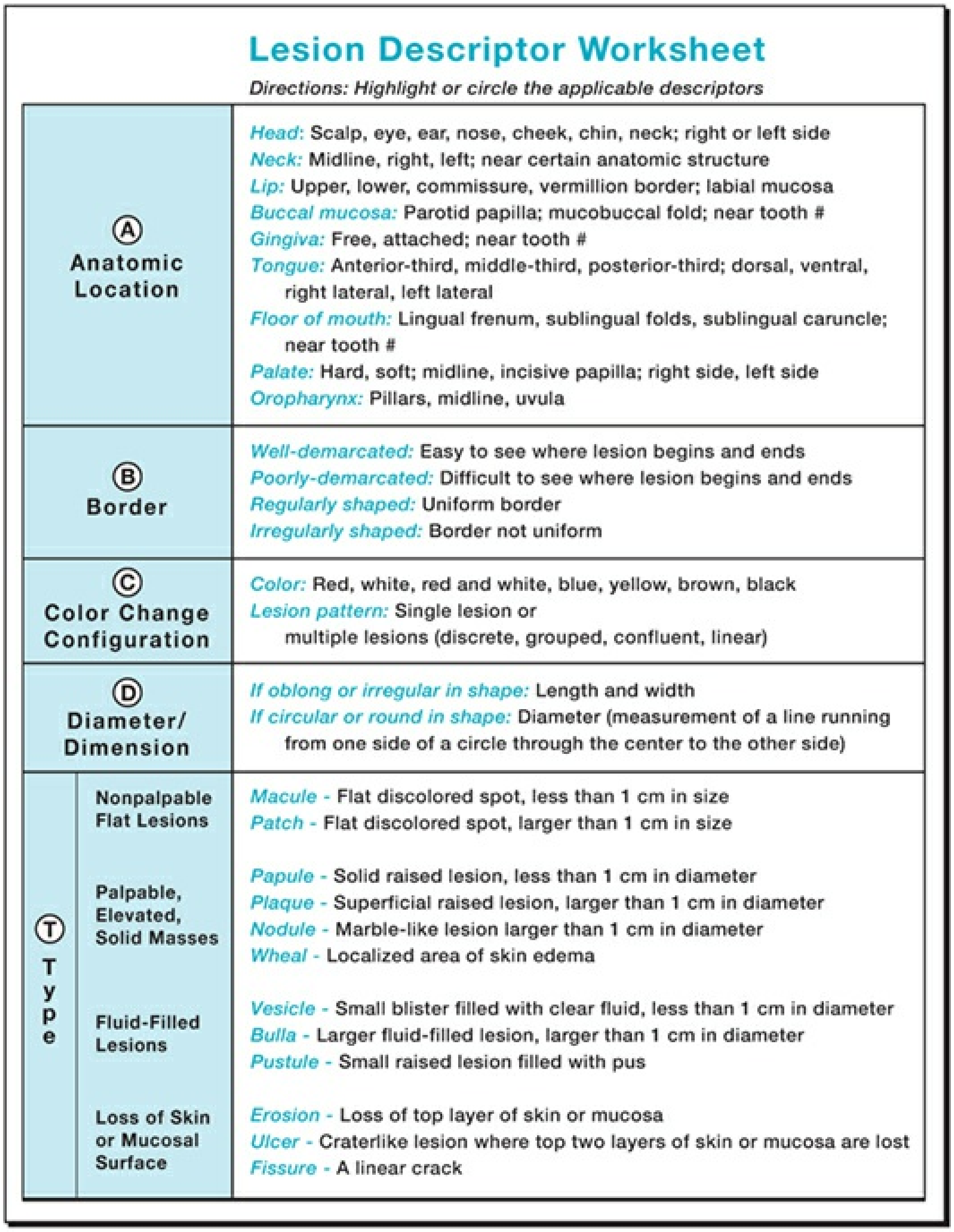


FIGURE 12-37 Lesion 2.

LESION 2



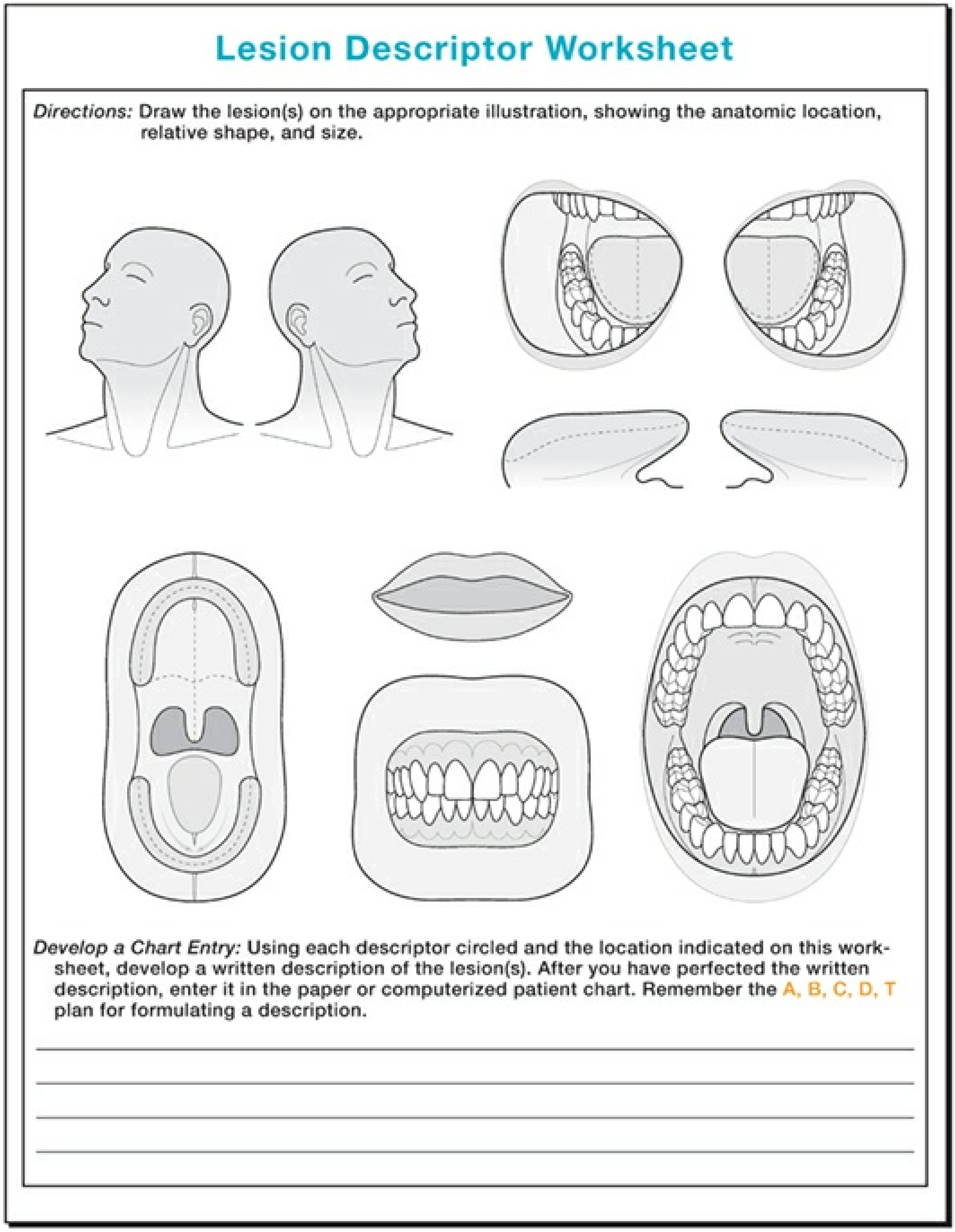
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-38A Page 1 of Lesion Descriptor Worksheet for use with lesion 2.

LESION 2



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-38B **Page 2 of Lesion Descriptor Worksheet for use with lesion 2.**

LESION 3

Location: palate

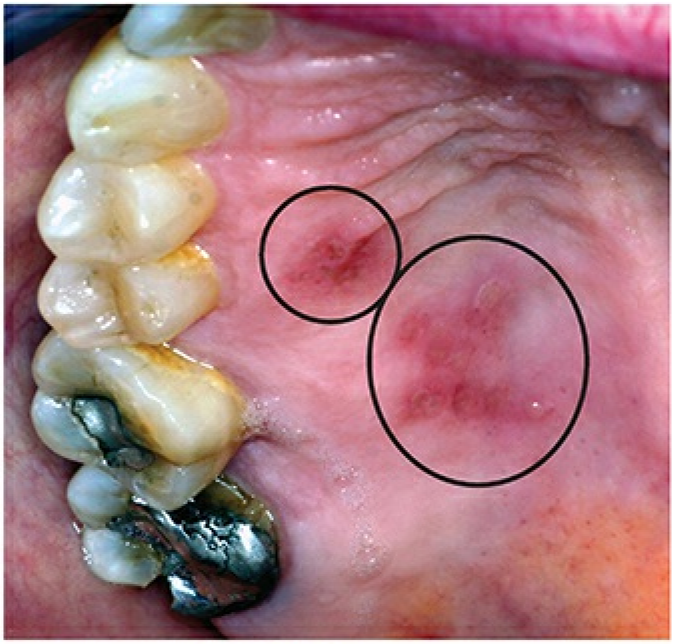
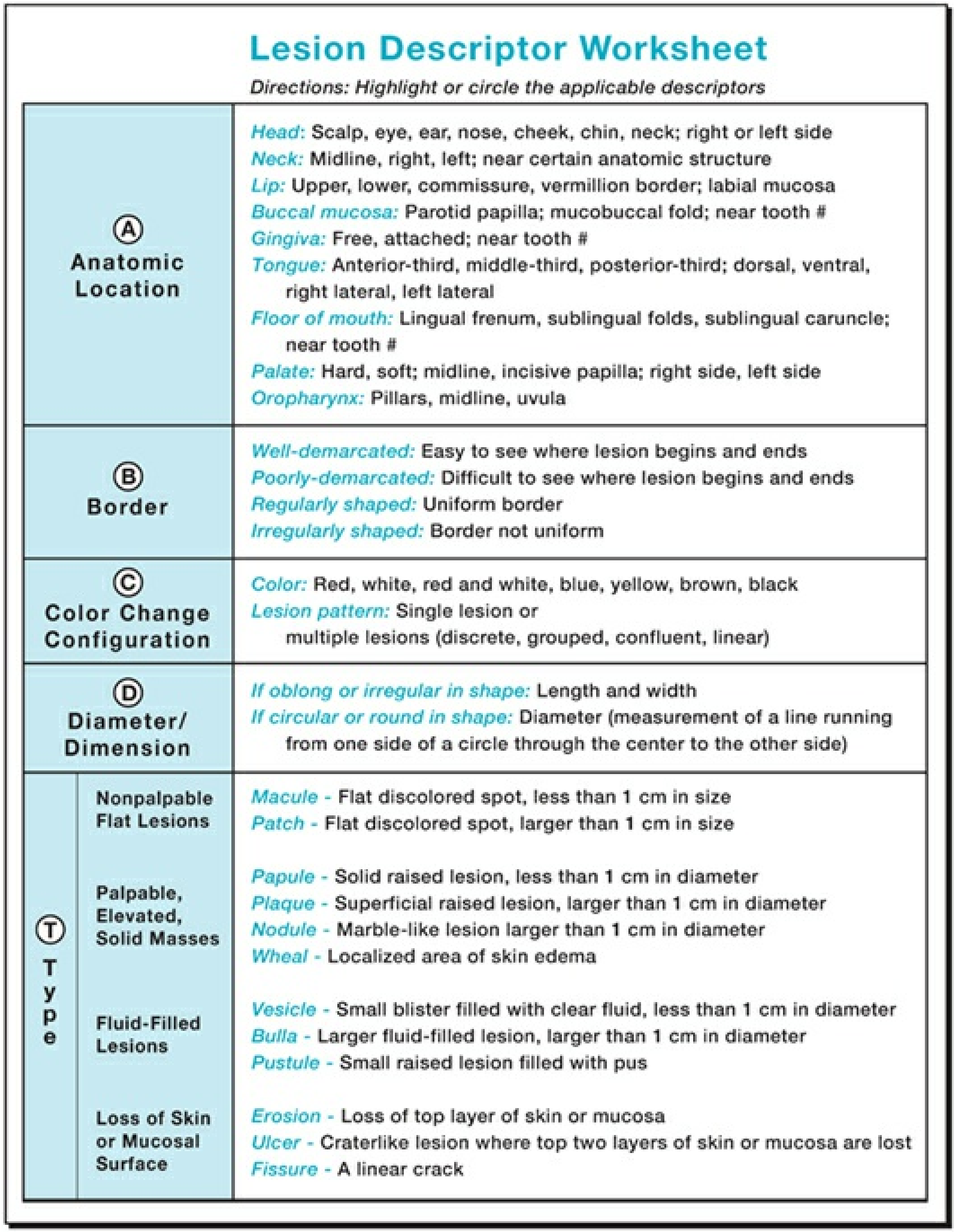


FIGURE 12-39 Lesion 3.

LESION 3



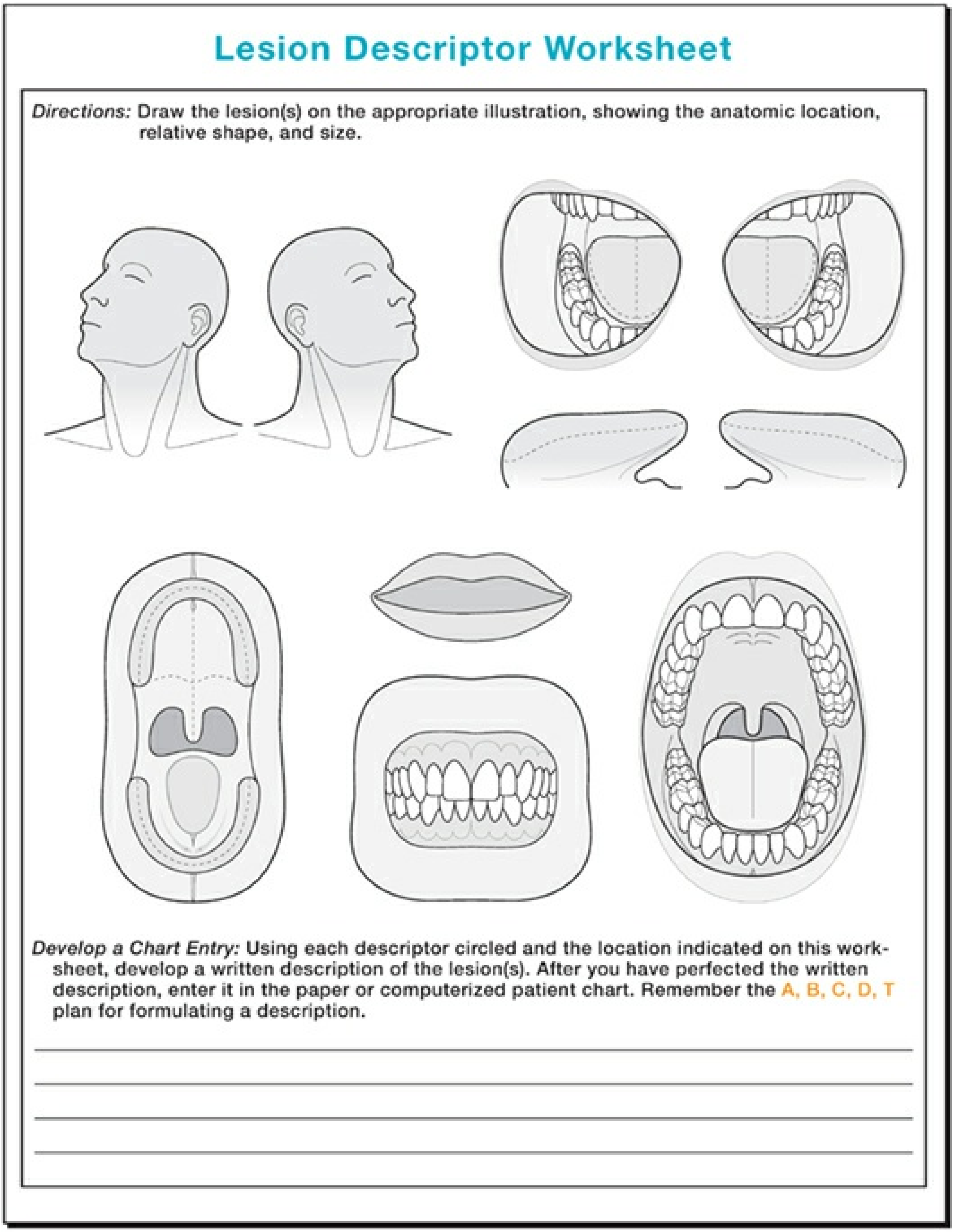
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-40A Page 1 of Lesion Descriptor Worksheet for use with lesion 3.

LESION 3



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-40B Page 2 of Lesion Descriptor Worksheet for use with lesion 3.

LESION 4

Location: gingiva and alveolar mucosa, right side of oral cavity

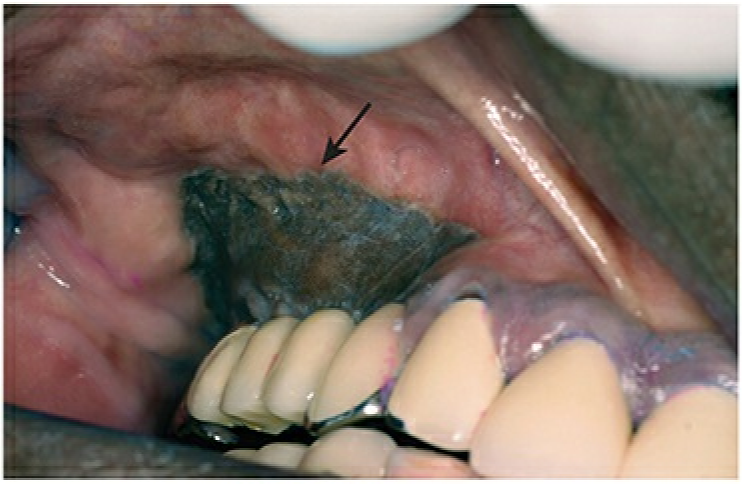
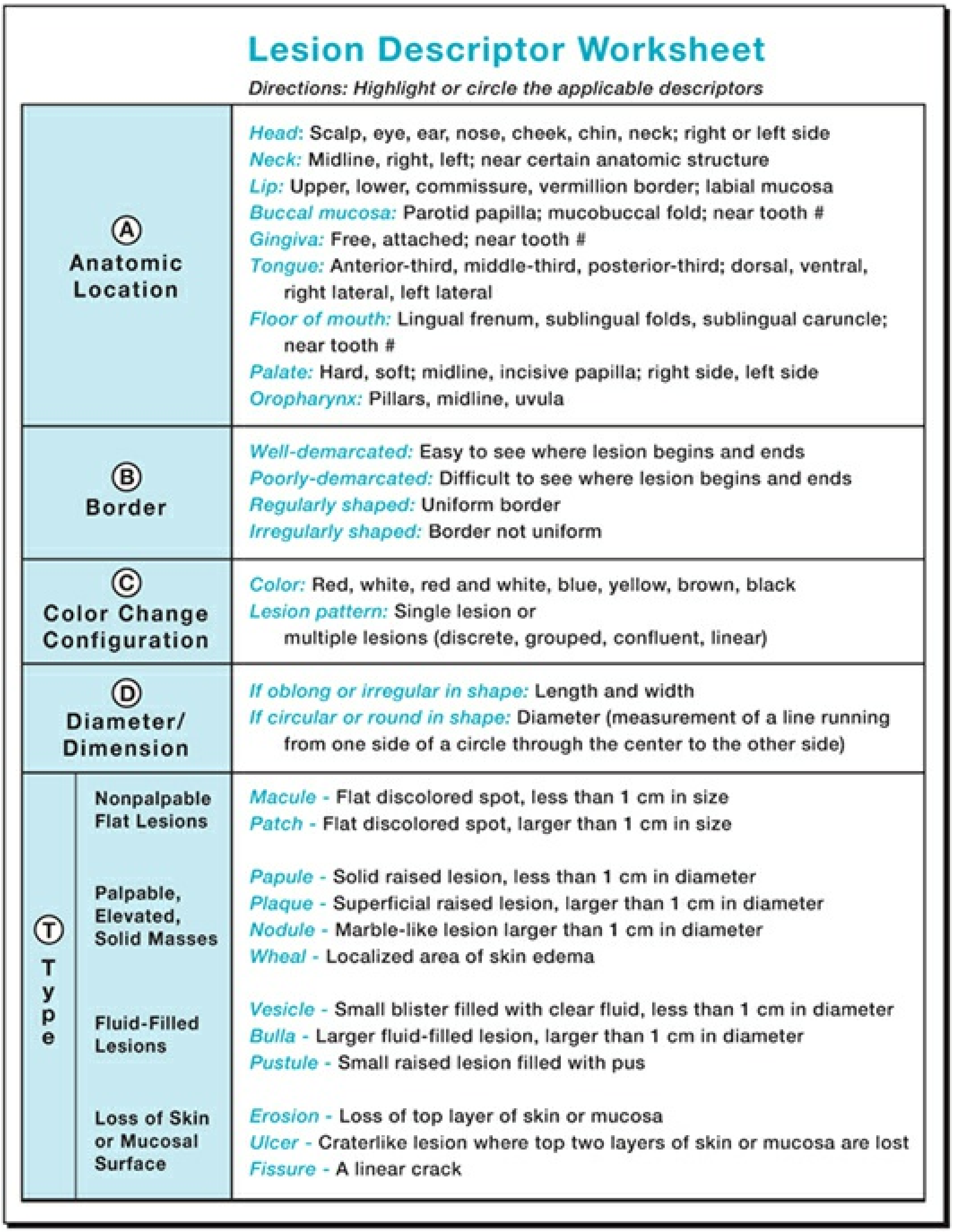


FIGURE 12-41 Lesion 4.

LESION 4



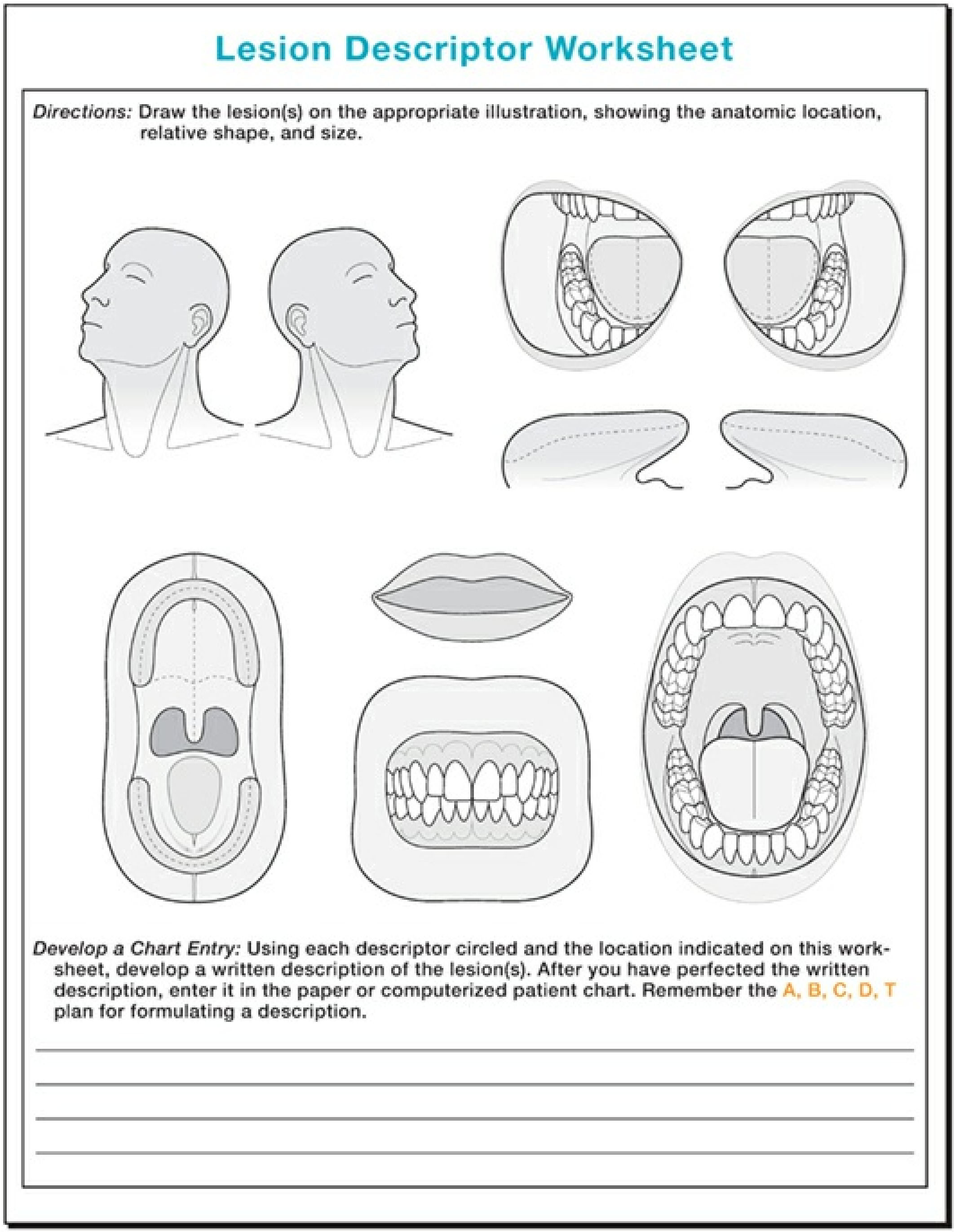
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head*: Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-42A Page 1 of Lesion Descriptor Worksheet for use with lesion 4.

LESION 4



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-42B Page 2 of Lesion Descriptor Worksheet for use with lesion 4.

LESION 5

Location: gingiva, maxillary left posterior sextant, facial aspect

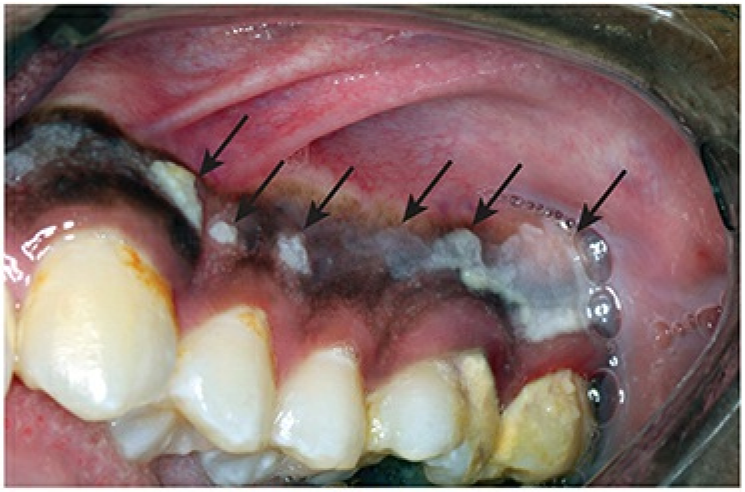
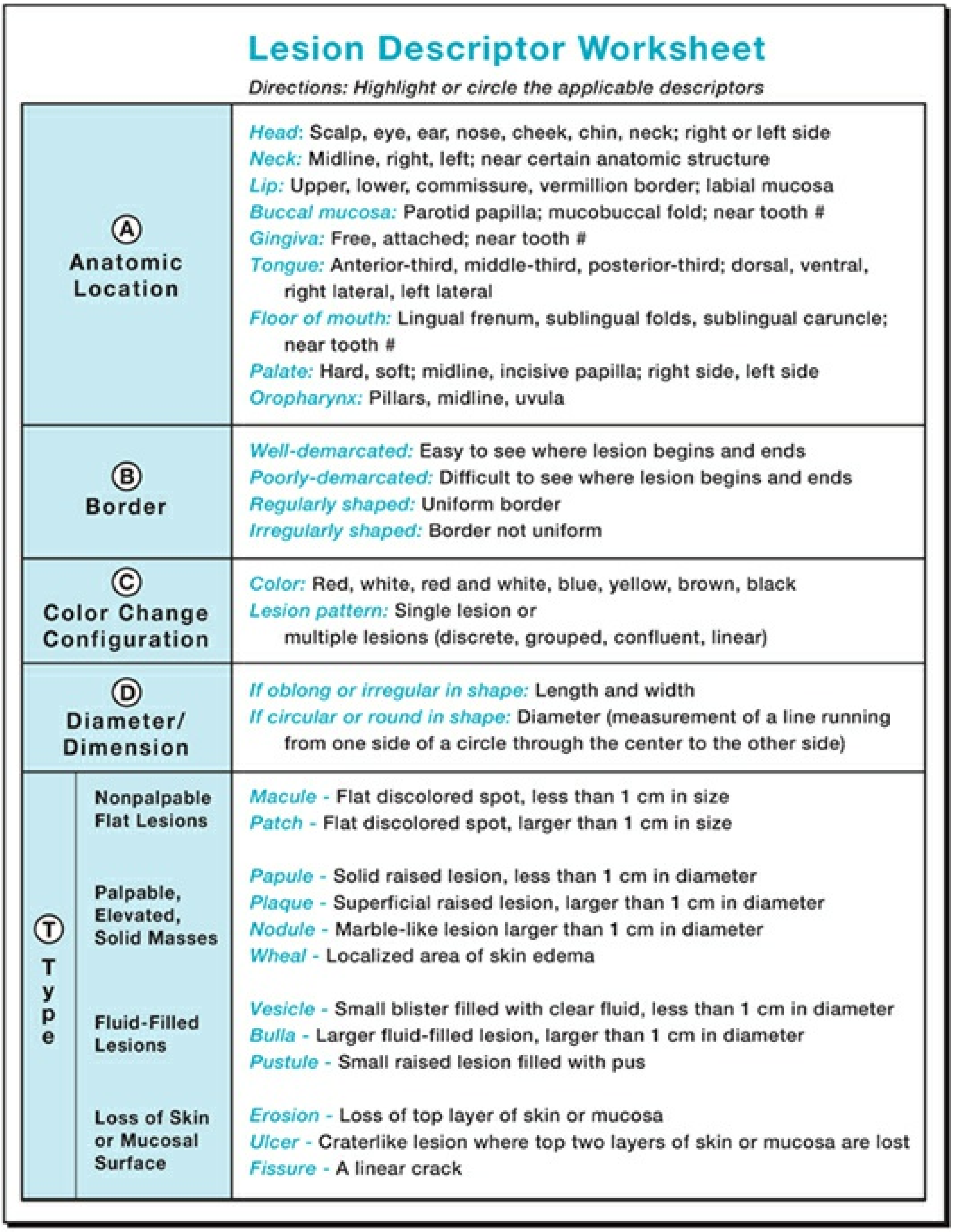


FIGURE 12-43 Lesion 5.

LESION 5



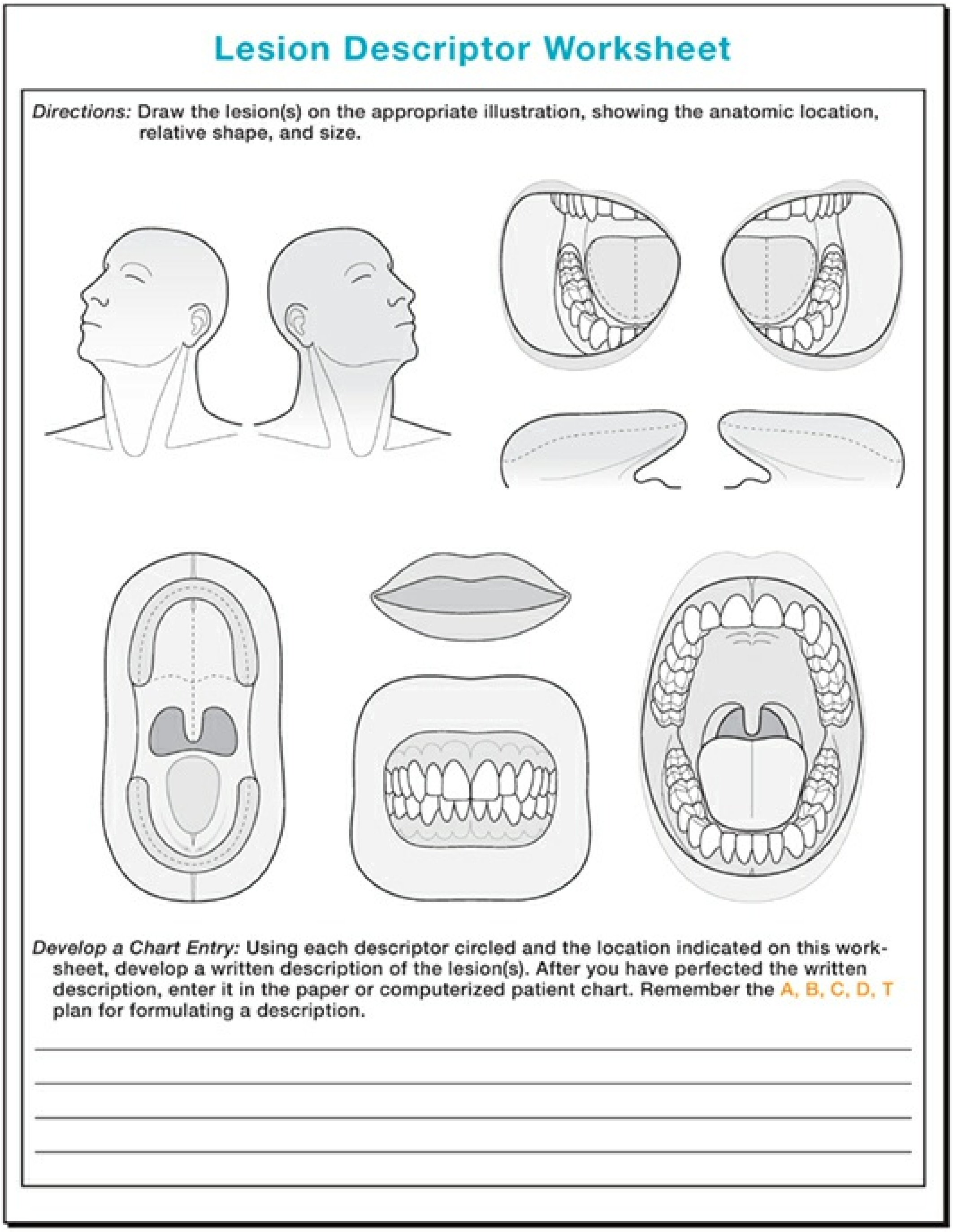
Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head*: Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 12-44A Page 1 of Lesion Descriptor Worksheet for use with lesion 5.

LESION 5



Lesion Descriptor Worksheet

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Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 12-44B **Page 2 of Lesion Descriptor Worksheet for use with lesion 5.**

Sources of Clinical Photographs

The authors gratefully acknowledge the sources of the following clinical photographs in this module.

- Figure 12-1. Dr. John S. Dozier, Tallahassee, FL.

- Figure 12-2. Dr. Michaell A. Huber, University of Texas Health Science Center at San Antonio, TX.
- Figure 12-3. Dr. Michaell A. Huber, University of Texas Health Science Center at San Antonio, TX.
- Figure 12-4. Centers for Disease Control and Prevention Public Health Image Library.
- Figure 12-5. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 12-6. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-7. Dr. Charles Goldberg, University of California San Diego School of Medicine, CA.
- Figure 12-8. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-9. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-10. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-11. Courtesy of Dr. Michaell A. Huber, University of Texas Health Science Center at San Antonio, TX.
- Figure 12-12. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-14. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-16. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 12-18. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-19. From Goodheart HP. *Goodheart's Photoguide of Common*

Skin Disorders. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.

- Figure 12-20. Dr. Michaell A. Huber, University of Texas Health Science Center at San Antonio, TX.
- Figure 12-21. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-23. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 12-24. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 12-25. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-27. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 12-28. From the National Cancer Institute, Bethesda, MA.
- Figure 12-30. From Neville B, Damm DD, White DK. *Color Atlas of Clinical Oral Pathology*. Philadelphia, PA: Lea & Febiger; 1991.
- Figure 12-32A. From the National Cancer Institute, Bethesda, MA.
- Figure 12-32B. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-32C. From the National Cancer Institute, Bethesda, MA.
- Figure 12-32D. From Weber J, Kelley J. *Health Assessment in Nursing*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-32. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 12-34. Dr. Richard Foster, Guilford Technical Community

College, Jamestown, NC.
- Figure 12-36. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-38. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-40. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 12-42. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.

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5. Scully C, Warnakulasuriya S. The role of the dental team in preventing and diagnosing cancer: 4. Risk factor reduction: tobacco cessation. *Dent Update*. 2005;32(7):394–396.
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7. Felix DH, Luker J, Scully C. Oral medicine: 6. White lesions. *Dent Update*. 2013;40(2):146–148.
8. Scully C, Felix DH. Oral medicine—update for the dental practitioner: red and pigmented lesions. *Br Dent J*. 2005;199(10):639–645.
9. Scully C, Felix DH. Oral medicine—update for the dental practitioner: oral white patches. *Br Dent J*. 2005;199(9):565–572.
10. Felix DH, Luker J, Scully C. Oral medicine: 11. Lumps and swellings: mouth. *Dent Update*. 2013;40(8):683–687.
11. Scully C, Felix DH. Oral medicine—update for the dental practitioner: aphthous and other common ulcers. *Br Dent J*. 2005;199(5):259–264.

12. Felix DH, Luker J, Scully C. Oral medicine: 3. Ulcers: cancer. *Dent Update*. 2012;39(9):664–668.
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14. Felix DH, Luker J, Scully C. Oral medicine: 1. Ulcers: aphthous and other common ulcers. *Dent Update*. 2012;39(7):513–516.
15. Scully C. Oral ulceration. *Br Dent J*. 2002;192(11):607.
16. Scully C, Felix DH. Oral medicine—update for the dental practitioner lumps and swellings. *Br Dent J*. 2005;199(12):763–770.
17. Scully C, Bagan J. Oral squamous cell carcinoma: overview of current understanding of aetiopathogenesis and clinical implications. *Oral Dis*. 2009;15(6):388–399.
18. Scully C, Bagan J. Oral squamous cell carcinoma overview. *Oral Oncol*. 2009;45(4–5):301–308.

MODULE

13

HEAD AND NECK EXAMINATION

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module describes the head and neck examination. The head and neck examination is a physical examination technique consisting of a systematic visual inspection and palpation of the structures of the head and neck. A thorough head and neck examination should be a routine part of each patient's dental visit.

This module describes the head and neck examination including:

- Review of anatomic structures of the head and neck
- Examination and palpation techniques
- Peak procedure for a systematic head and neck examination

MODULE OUTLINE

SECTION 1 **Examination Overview**
Overall Appraisal of the Head and Neck
Anatomy Review
    Eyes, Ears, and Nose

    Sternomastoid Muscle
    Lymph Nodes of the Head and Neck
    Salivary Glands
    Thyroid Gland
    Temporomandibular Joint

SECTION 2 **Methods for Examination**
Examination Techniques
Compression Techniques
Palpation Expectations

SECTION 3 **Peak Procedure**
Procedure 13-1. Head and Neck Examination
    Subgroup 1: Overall Appraisal of Head, Neck, Face, and Skin
    Subgroup 2: Lymph Nodes of the Head and Neck
    Subgroup 3: Salivary and Thyroid Glands
    Subgroup 4: Temporomandibular Joint (TMJ)

SECTION 4 **The Human Element**
Through the Eyes of a Cancer Survivor
Ethical Dilemma
English-to-Spanish Phrase List

SECTION 5 **Practical Focus—Fictitious Patient Cases**
Fictitious Patient Case A: Mr. Alan Ascari
Fictitious Patient Case B: Bethany Biddle
Fictitious Patient Case C: Mr. Carlos Chavez
Fictitious Patient Case D: Mrs. Donna Doi
Fictitious Patient Case E: Ms. Esther Eads

SECTION 6 **Skill Check**

KEY TERMS

Head and neck examination • Sternomastoid muscle • Lymphatic system

• Lymph • Lymph nodes • Enlarged • Lymphadenopathy • Metastasis • Salivary glands • Parotid glands • Submandibular glands • Sublingual glands • Thyroid gland • Nodules • Goiter • Temporomandibular joint (TMJ) • Inspection • Palpation • Antegonial notch

OBJECTIVES

- Describe the normal anatomy of the structures of the head and neck.
- Identify deviations from normal of the skin, lymph nodes, salivary and thyroid glands.
- Position the patient correctly for the head and neck examination.
- Demonstrate the use of communication strategies to provide information to the patient about the head and neck examination and any notable findings.
- Locate the (1) lymph nodes of the head and neck, (2) salivary and thyroid glands, and (3) temporomandibular joint.
- Demonstrate the head and neck examination using correct technique and a systematic sequence of examination.
- Document notable findings in the patient chart or computerized record.
- Identify findings that have implications in planning dental treatment.
- Provide referral to an appropriate specialist when findings indicate the need for further evaluation.
- Demonstrate knowledge of the head and neck exam by applying concepts from this module to the fictitious patient cases A to E found in Section 5.

SECTION 1 • Examination Overview

The **head and neck examination** is a physical examination technique consisting of a systematic visual inspection of the skin of the head and neck combined with palpation of the lymph nodes, salivary glands, thyroid gland, and temporomandibular joint. This procedure takes only minutes and allows the clinician to gather general information on the health of a patient, note early indications of some diseases, and detect abnormalities and potentially life-threatening malignancies at an early stage.[1–8] ***The head and neck and oral examinations are two of the most important clinical procedures that a clinician will ever master, as these examinations can literally save a patient's life.*** The oral examination is presented in Module 14.

There are many structures to be assessed during the head and neck examination. To assist the clinician in performing a systematic examination, the structures are organized into four subgroups: (1) the overall appraisal of the head and neck, face, ears, and skin; (2) lymph nodes of the head and neck; (3) salivary and thyroid glands; and (4) temporomandibular joint.

Overall Appraisal of the Head and Neck

The head and neck examination begins while greeting and seating the patient. While chatting with the patient, unobtrusively examine the head and neck area including assessment of facial form and symmetry and inspection of the skin (Fig. 13-1).

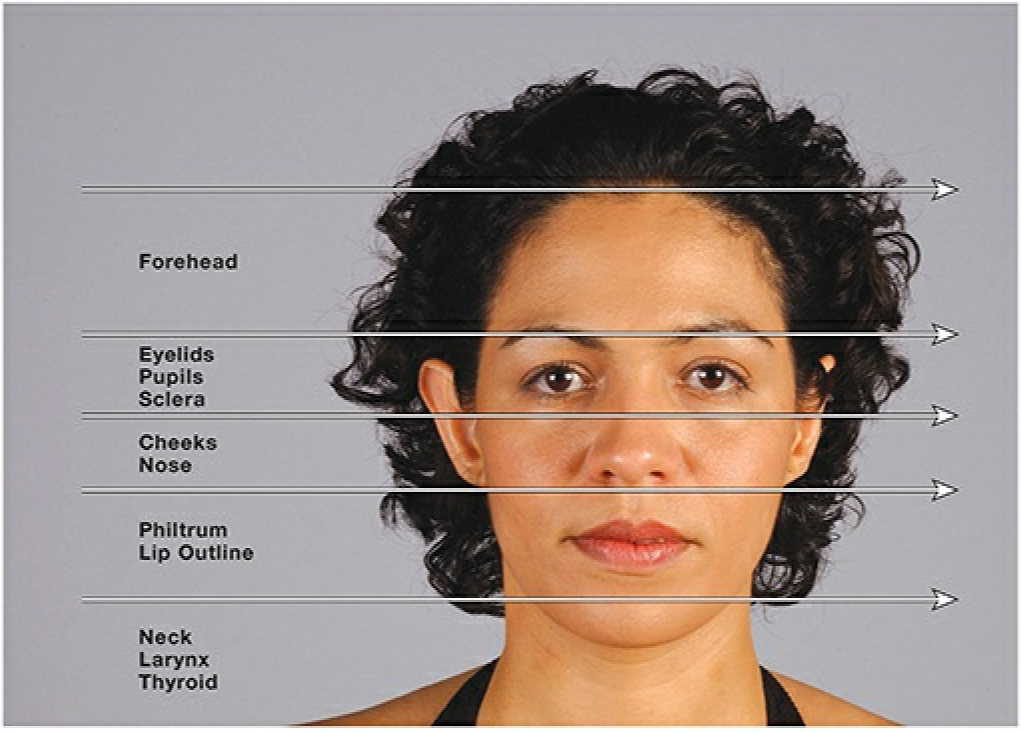

Forehead
Eyelids
Pupils
Sclera
Cheeks
Nose
Philtrum
Lip Outline
Neck
Larynx
Thyroid

FIGURE 13-1 **Overall appraisal.** Divide the face and neck into imaginary zones. Scanning from right to left, inspect each zone carefully but unobtrusively. Note signs of asymmetry; hair loss; dilated or unequal pupils; involuntary facial movements; and variations such as changes in color, scars, lesions, or fissuring of the skin.

Anatomy Review

To perform an accurate head and neck examination, the clinician needs to know the anatomy of the eyes, ears, nose, and neck and recognize the clinical appearance of normal structures.

EYES, EARS, AND NOSE

Knowledge of the landmarks of the eyes, ears, and nose is useful when recording the location of a soft tissue lesion or other notable findings (Figs. 13-2 and 13-3).

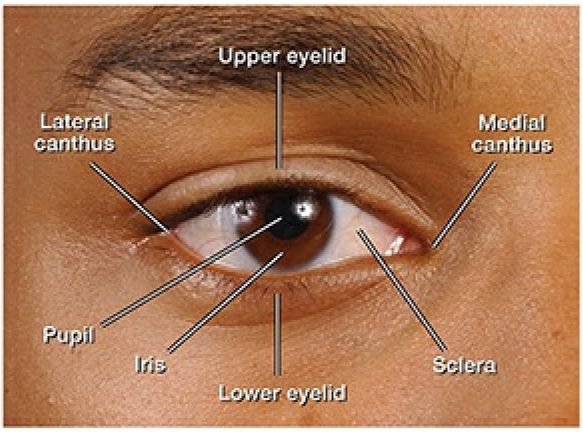

Upper eyelid
Lateral canthus
Medial canthus
Pupil
Iris
Lower eyelid
Sclera

FIGURE 13-2 Landmarks of the eye. The sclera (white of the eye), pupil, and eyelids are anatomic landmarks of the eye.

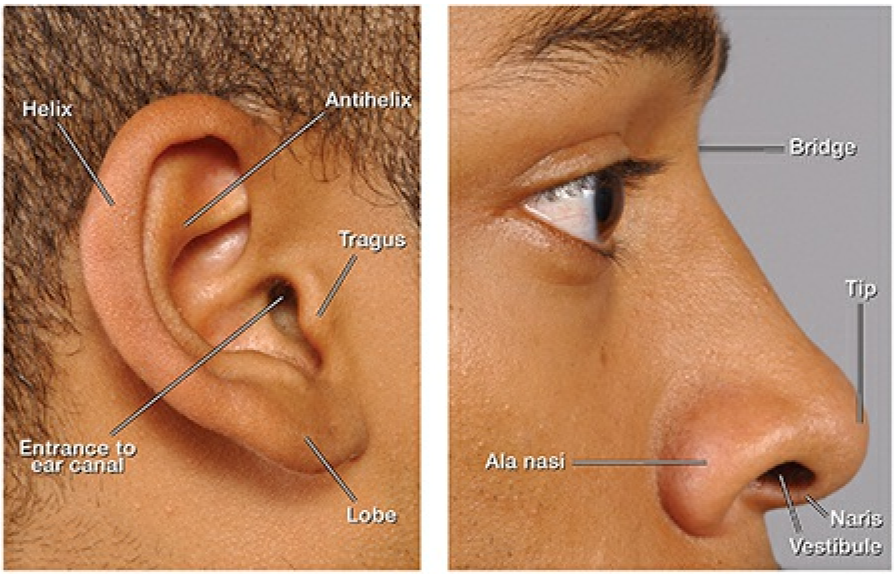

Helix
Antihelix
Tragus
Entrance to ear canal
Lobe
Bridge
Tip
Ala nasi
Naris
Vestibule

FIGURE 13-3 Landmarks of the ear and nose. External ear landmarks include the ear lobe, tragus, helix, antihelix, and entrance to the ear canal. Landmarks of the nose include the bridge, tip, anterior naris, and ala nasi.

STERNOMASTOID MUSCLE

The **sternomastoid muscle**—also known as the sternocleidomastoid muscle—is a long, thick superficial muscle on each side of the head with its origin on the mastoid process and insertion on the sternum and clavicle (Fig. 13-4).

- This muscle acts to bend, rotate, and flex head.
- The ability to locate the sternomastoid muscle is significant because ***the cervical lymph nodes lie above, beneath, and posterior to this muscle***.

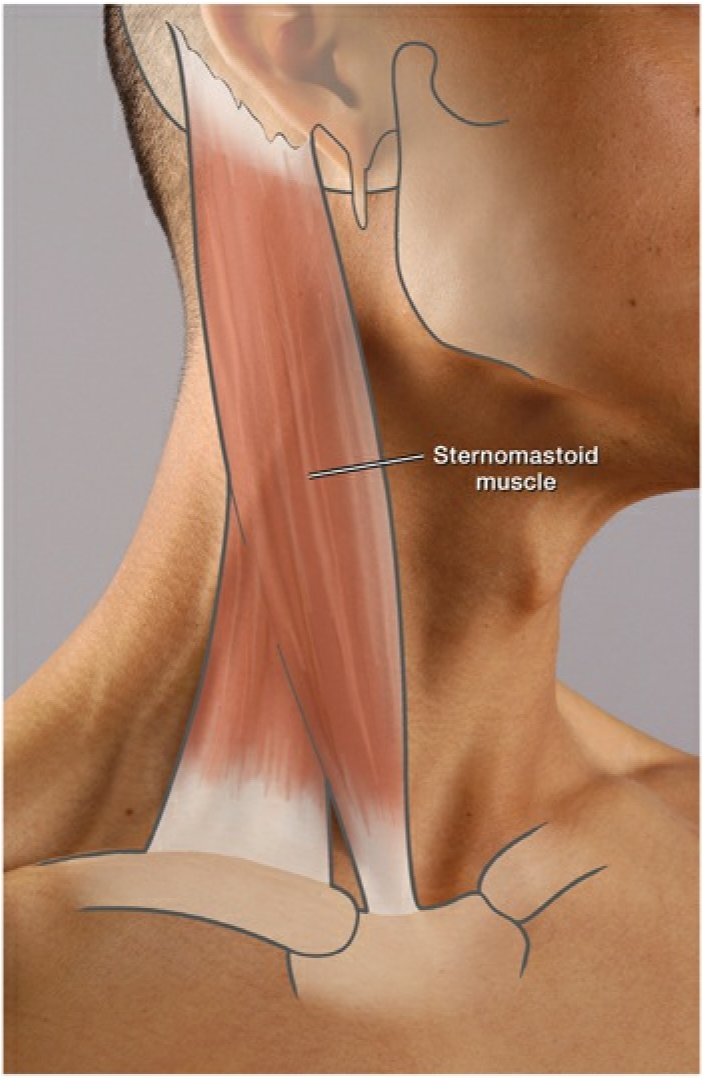


FIGURE 13-4 The sternomastoid muscle of the neck.

LYMPH NODES OF THE HEAD AND NECK

The **lymphatic system** is a network of lymph nodes connected by lymphatic vessels that plays an important part in the body's defense against infection. This system transports **lymph**—a clear fluid that carries nutrients and waste materials between the body tissues and the bloodstream. **Lymph nodes** (pronounced "limf") are small, bean-shaped structures that filter out and trap bacteria, fungi, viruses, and other unwanted substances to safely eliminate them from the body (Fig. 13-5). All substances transported by the lymphatic system pass through at least one lymph node, where foreign substances can be filtered out and destroyed before fluids are returned to the bloodstream.

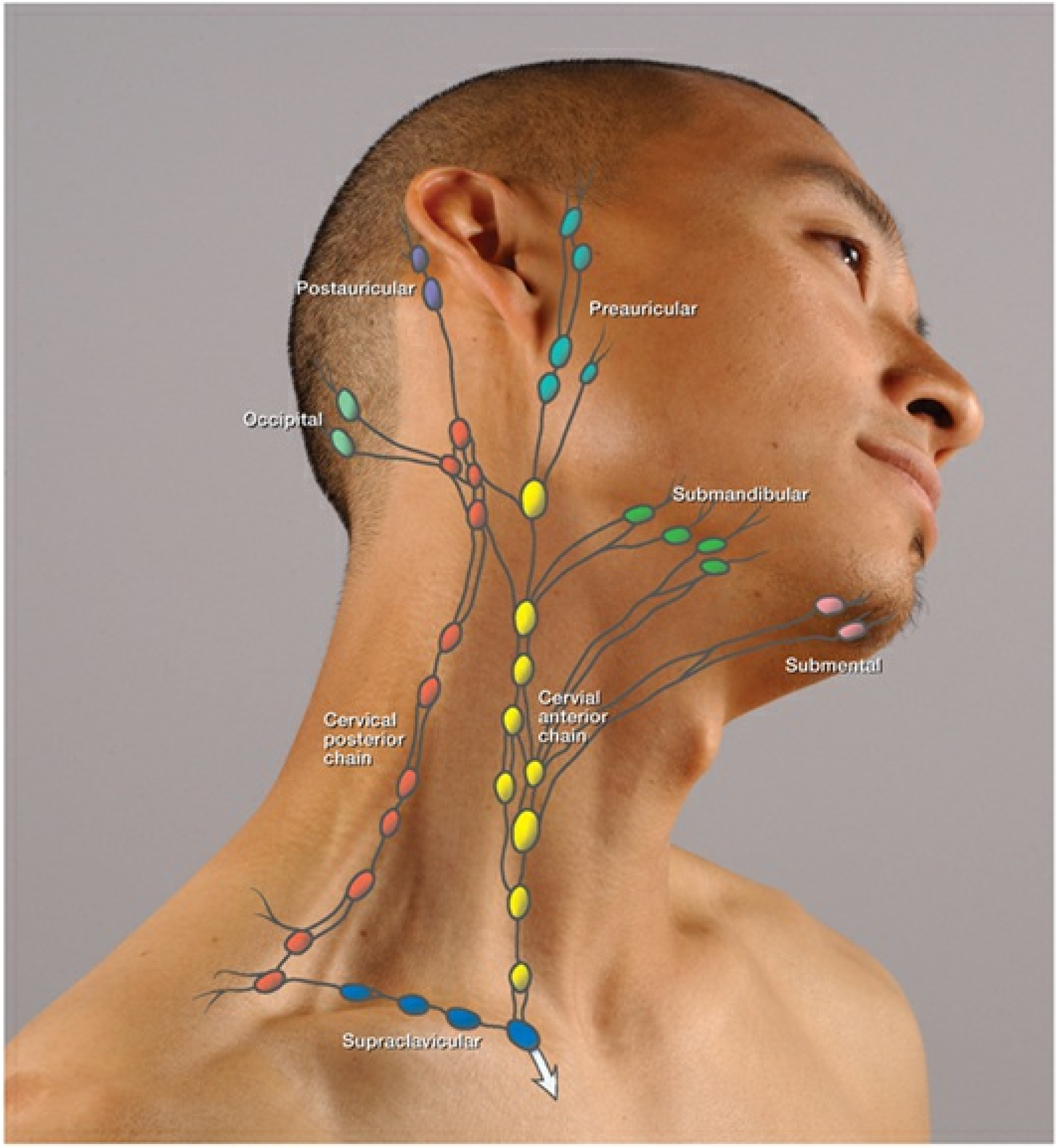

Postauricular
Preauricular
Occipital
Submandibular
Submental
Cervial anterior chain
Cervical posterior chain
Supraclavicular

FIGURE 13-5 Location of the lymph nodes of the head and neck.

There are 400 to 700 lymph nodes in the body, ***170 to 200 of which are located in the neck***.[9] The major lymph node groups are located along the anterior and posterior aspects of the neck and on the underside of the jaw (Fig. 13-5).

1. Normal lymph nodes can be as small as the head of a pin or the size of a pea or baked bean.
2. Lymph nodes can become **enlarged** due to infection, inflammatory conditions, an abscess, or cancer.
   a. **Lymphadenopathy** (lymph•ade•nop•a•thy) is the term for enlarged

lymph nodes.

b. If the nodes are quite big, they may be visible bulging under the skin (Fig. 13-6) particularly if the enlargement is asymmetric (i.e., it will be more obvious if one side of the neck is larger than the other).

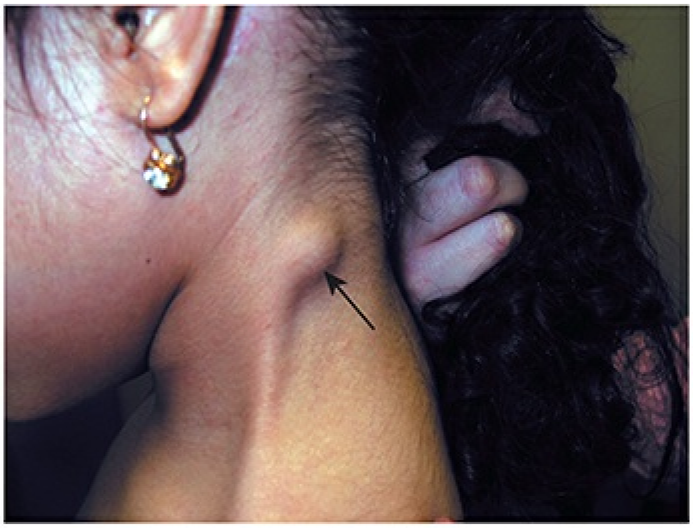


FIGURE 13-6 **Lymphadenopathy.** An enlarged cervical lymph node. (Image provided by Stedman's Medical Dictionary.)

3. By far, the most common cause of lymph node enlargement is infection. In general, when swelling appears suddenly and is tender to the touch, it is usually caused by injury or infection.
   a. When a part of the body is infected, the nearby lymph nodes become swollen as they collect and destroy the infecting organisms. For example, if a person has a throat infection, the lymph nodes in the neck may swell and become tender to the touch.
   b. Nodes with a viral infection are usually 1/2 to 1 in across.
   c. Nodes with a bacterial infection usually are larger than 1 in across, about the size of a quarter.

4. Node enlargement that comes on gradually and painlessly may result from cancer.
   a. An enlarged lymph node might be a sign that the cancer has spread to a lymph node.
   b. **Metastasis** is the spread of cancer from the original tumor site to other parts of the body by tiny clumps of cells transported by the

blood or lymphatic system.

c. When oral cancer metastasizes, it most commonly spreads through the lymphatic system to the cervical chain of lymph nodes in the neck.

d. Lymph nodes can play a role in the spread of cancer, as the lymphatic system can transport cancer cells throughout the body.

SALIVARY GLANDS

Salivary glands produce saliva and have ducts that release saliva into the mouth (Fig. 13-7). Problems of the salivary glands include obstruction of the flow of saliva, inflammation, infection, and salivary gland tumors.

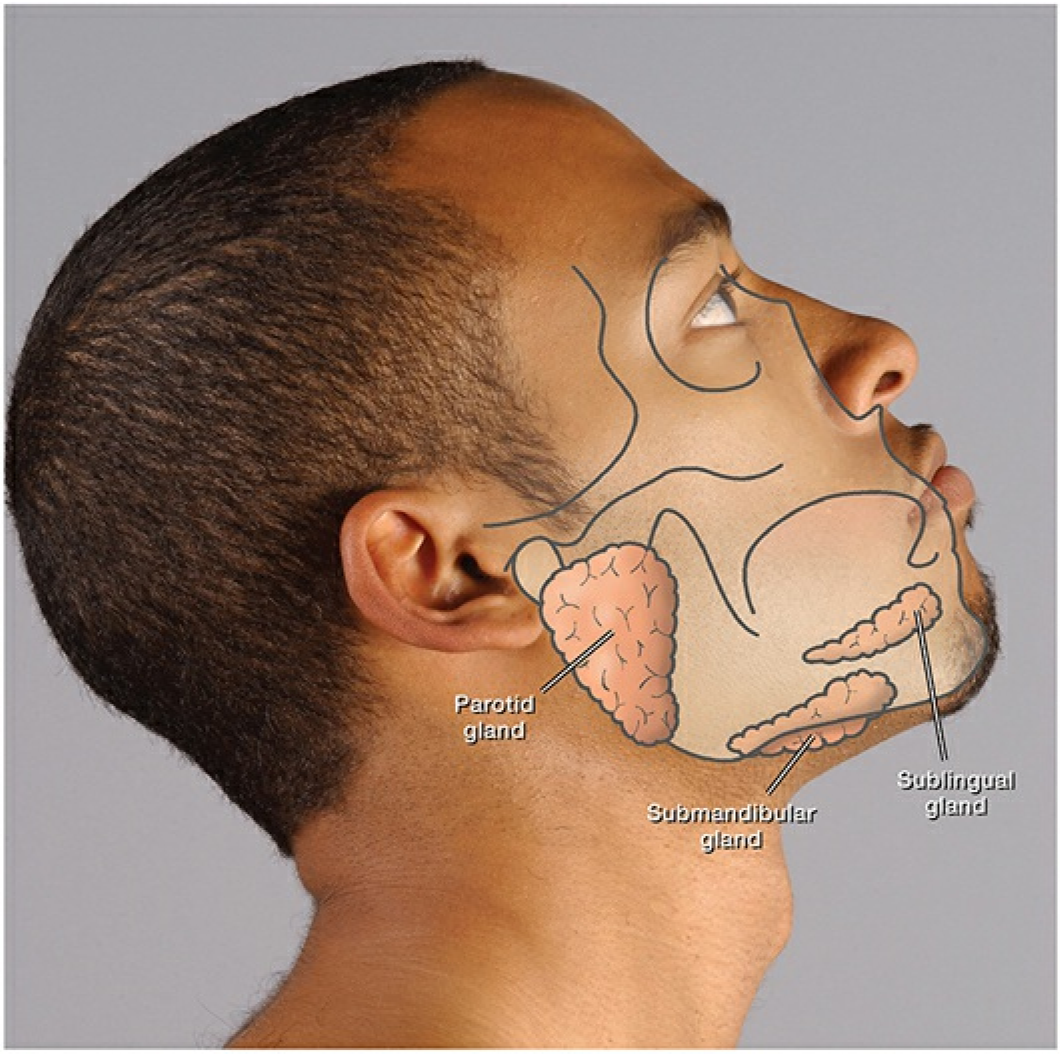


FIGURE 13-7 The salivary glands.

There are three main pairs of salivary glands:

- The **parotid glands** are the largest of the salivary glands. Each gland is located on the surface of the masseter muscle between the ear and the jaw.
- The **submandibular glands** sit below the jaw toward the back of the mouth.
- The **sublingual glands** are located under the tongue, beneath the mucous membrane of the floor of the mouth.

THYROID GLAND

The **thyroid gland** (THIGH-royd), one of the endocrine glands, secretes thyroid hormone that controls the body's metabolic rate. The thyroid gland is located in the middle of the lower neck and is covered by layers of skin and muscles (Fig. 13-8). It is situated below the larynx (voice box), over the trachea and just above the clavicles (collarbones). The small 2-inch gland has a right and left lobe joined by a narrow isthmus, giving the gland the shape of a bow tie.

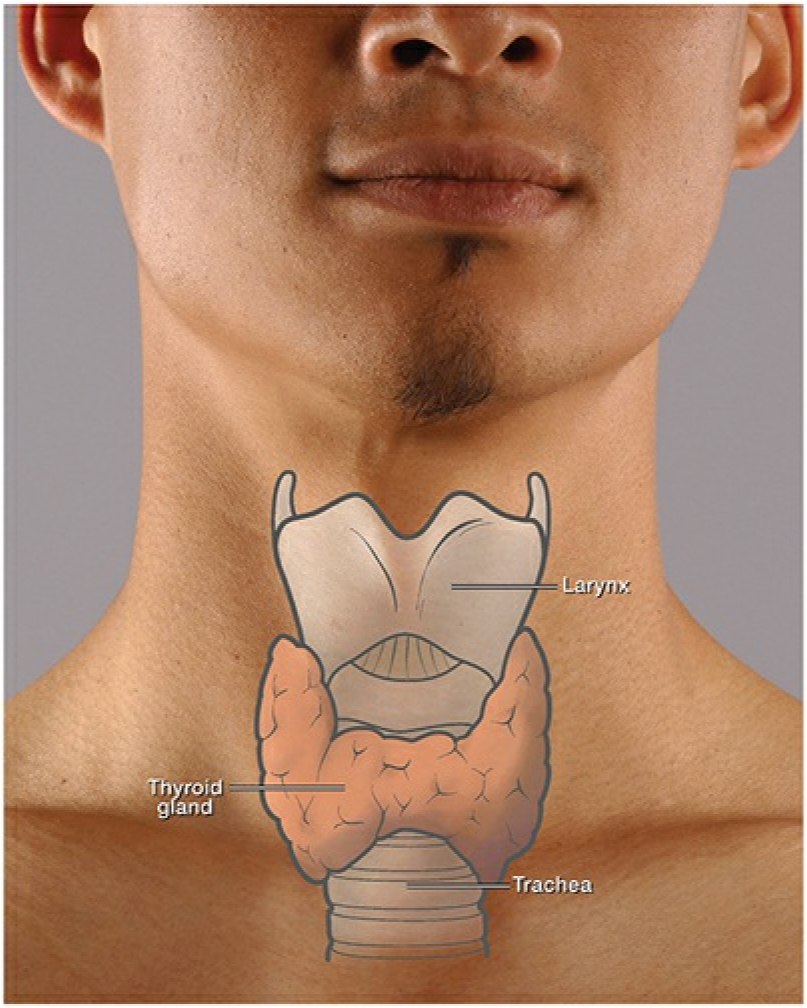


FIGURE 13-8 **The thyroid and larynx.** The thyroid gland is made up of two lobes that are connected by an isthmus and thus has bow tie–shaped appearance. A portion of each lobe lies behind the sternomastoid muscle.

Disorders of the thyroid gland are very common, affecting millions of Americans.[10] The most common disorders of the thyroid are an over- or underactive gland. Examination of the thyroid is done to look at the size of the gland as well as for **nodules** (lumps or masses). Normally, the thyroid gland cannot be seen and can barely be felt, but if it becomes enlarged, it can be felt and it may appear as a bulge below or to the side of the Adam's apple (Figs. 13-9 and 13-10).

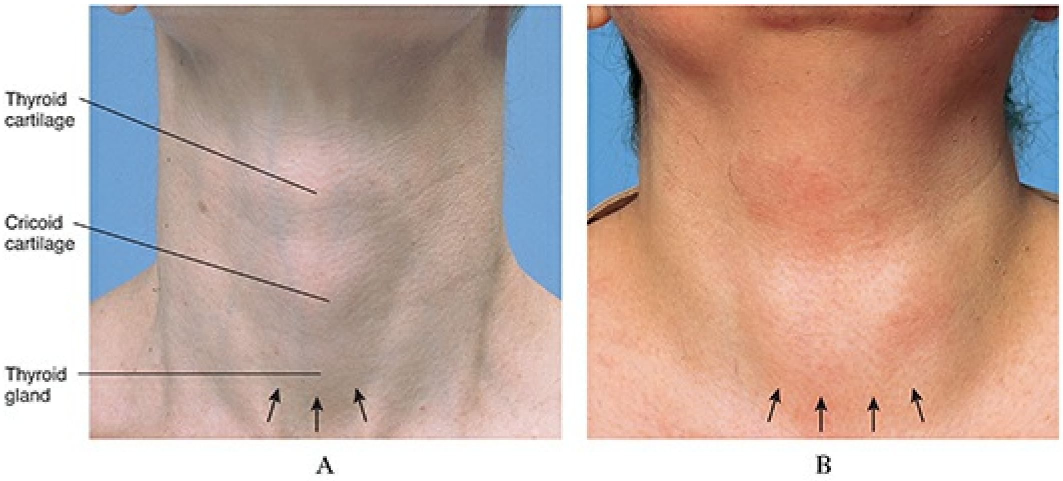


FIGURE 13-9 **The thyroid gland at rest. A.** A normal thyroid gland. **B.** An enlarged thyroid gland. **Goiter** is the term for an enlarged thyroid gland. (From Bickley LS, Szilagyi P. *Bates' Guide to Physical Examination and History Taking*. 8th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.)

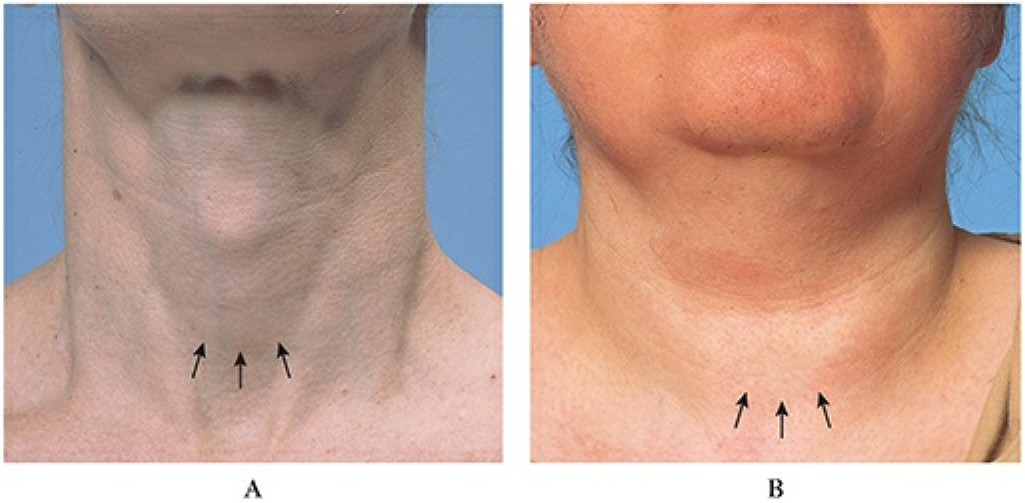


FIGURE 13-10 **The thyroid gland during swallowing. A.** A normal thyroid gland during swallowing. **B.** An enlarged thyroid—the enlarged gland is more evident as it rises during the act of swallowing. (From Bickley LS, Szilagyi P. *Bates' Guide to Physical Examination and History Taking*. 8th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.)

TEMPOROMANDIBULAR JOINT

The **temporomandibular joint (TMJ)** is the joint that connects the mandible to the temporal bone at the side of the head (Figs. 13-11 and 13-12). It is one of the most complicated joints in the body, allowing the jaw to open and close, move forward and backward, and from side to side. The joint contains a piece of cartilage called a disk that keeps the skull and the mandible from rubbing against each other. Temporomandibular disorders include problems with the joints, the muscles surrounding them, or both.

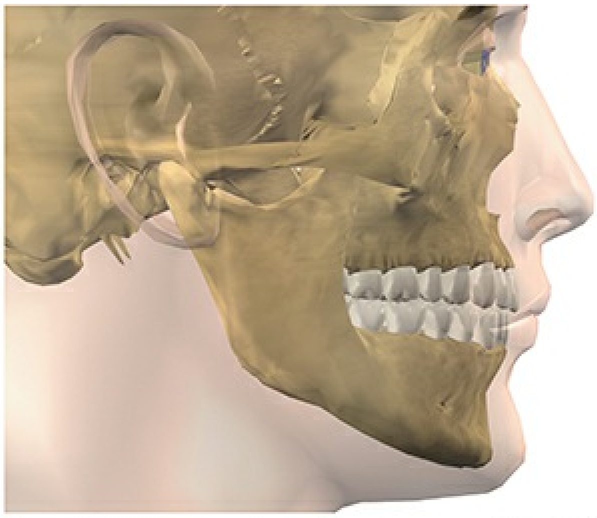


FIGURE 13-11 **Lateral view of the temporomandibular joint.** (Courtesy of LifeART. Copyright 2006 Lippincott Williams & Wilkins. All rights reserved.)

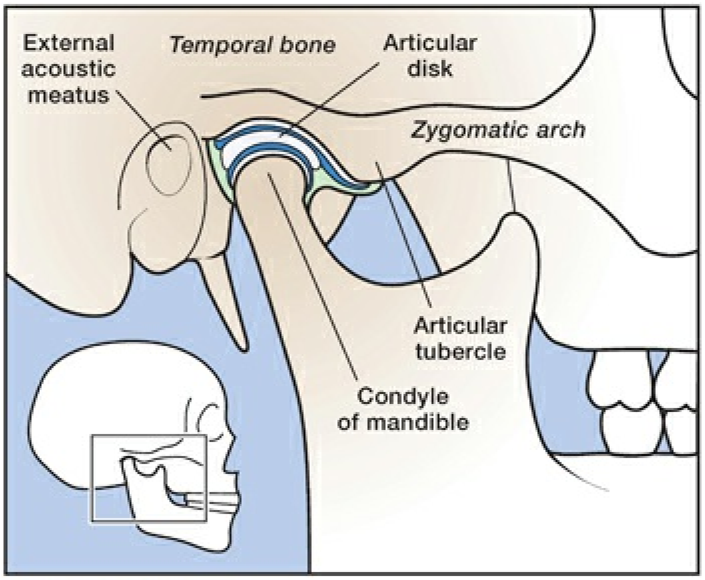

External acoustic meatus
Temporal bone
Articular disk
Zygomatic arch
Articular tubercle
Condyle of mandible

FIGURE 13-12 **Anatomy of the temporomandibular joint.**

SECTION 2 • Methods for Examination

Examination Techniques

1. **Examination Techniques.** The two primary examination techniques are inspection and palpation.
   a. **Inspection** is a systematic visual examination of a patient's general appearance, skin, or a part of the body to observe its condition.

   b. **Palpation** is the examination of a part of the body by using the fingertips to move or compress a structure against the underlying tissue. The most sensitive part of the hand—the fingertips—should be used for palpation.

2. **Keys to Effective Examination Technique**
   a. **Consistent sequence.** The sequence for examination of the head and neck must be followed consistently with every patient so as not to accidentally skip an area or structure. The specific order can vary from clinician to clinician. It is most important, however, that once a clinician chooses a particular sequence that he or she keeps the same sequence of examination every time to ensure thoroughness.
   b. **Good palpation technique.** Correct palpation technique is critical to the success of a head and neck examination. Suggestions for effective palpation technique are listed in Box 13-1.
   c. **Careful documentation.** All findings should be documented on the patient chart or computerized record. Documentation of unusual or abnormal findings with a camera is extremely helpful.

BOX
13-1

Technique for Effective Palpation

1. To detect abnormalities such as swelling, tumors, or enlarged lymph nodes, the structure being examined must be compressed against a firm, underlying structure or between the examiner's fingers.
2. To compress a structure against an underlying structure, use the fingertips to depress the structure being examined about 1/2 inch against the underlying tissue.
3. Depress the structure, applying consistent light pressure and a circular motion.
4. When ready to palpate another area, lift the fingers, move to the next area, and repeat the process applying light, consistent pressure against the underlying tissue.

5. ***Incorrect palpation technique involves lightly "walking" or "dancing" the fingertips over a structure.*** This light dancing technique usually is unsuccessful in detecting nodules, tumors, swelling, or enlarged lymph nodes.
6. Rather than dancing your fingertips over a structure, use the fingertips to compress the structure against the underlying tissues using a circular motion.

Compression Techniques

To detect abnormalities such as swelling, tumors, or enlarged lymph nodes, the structure being examined must be compressed against a firm structure or between the examiner's fingers (Table 13-1). The fingertips are used during palpation by placing the sensitive palmar surfaces of the fingertips against the tissues (Fig. 13-17).

TABLE 13-1 METHODS FOR DETECTING ABNORMALITIES

Compression Techniques

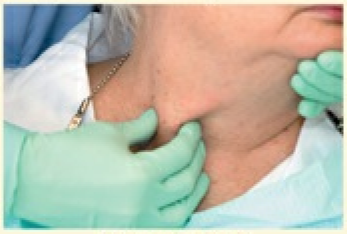


FIGURE 13-13

Compression between the fingers of one hand—the technique of compressing the tissue between the fingers and thumb of the same hand.

Example: Compressing the sternomastoid muscle of the neck between the fingers and thumb

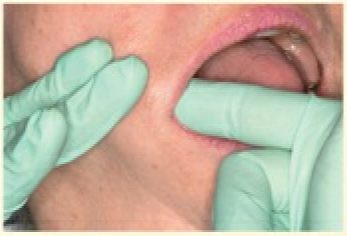


FIGURE 13-14

Compression between the fingers of both hands—the technique of compressing the tissues between the fingers of both hands in coordination to assess a structure.

Example: Using an index finger intraorally to compress the tissue of the buccal mucosa against the fingers of the extraoral hand

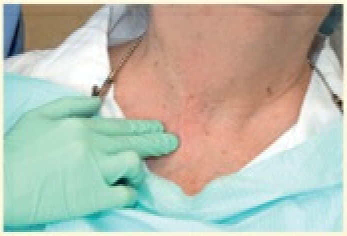


FIGURE 13-15

Compression against an underlying structure—this technique uses one or two fingers to move or depress a structure against the underlying tissues.

Example: Using the fingers to compress the supraclavicular lymph nodes of the neck against the underlying tissues

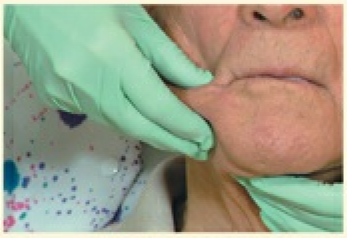


FIGURE 13-16

Compression against and over an underlying structure—this palpation technique uses the fingertips to move or compress a structure against the underlying tissue.

Example: Using the fingers of the right hand to roll the tissue from under the chin up and over the inferior border of the mandible

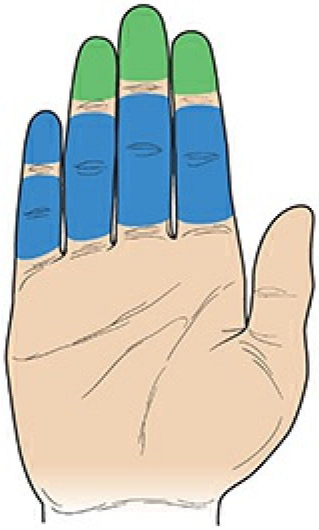


FIGURE 13-17 **Fingertips.** The sensitive palmar surfaces of the fingertips (shown in green) are used to palpate structures of the head, neck, and oral cavity.

Two basic compression techniques are employed during palpation:

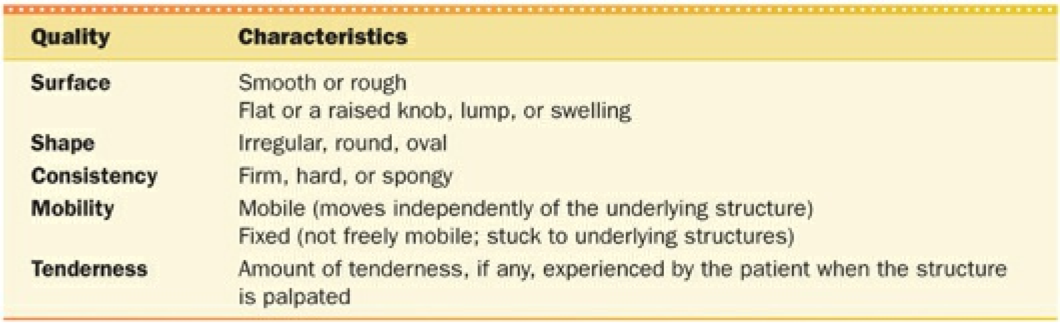
1. Compressing the soft tissue between the examiner's fingertips and
2. Compressing the soft tissue against underlying structures or tissues of the head or neck.

Palpation Expectations

In health, the lymph nodes, salivary glands, and thyroid rarely are detectible by palpation. For this reason, many beginning clinicians express concern saying, "But I don't feel anything." Table 13-2 outlines findings that can be detected by palpation.

- Palpating the structures of the head and neck can be likened to our observations in everyday life.
- Think about the skin of the arm. When touched, the skin on an arm is smooth, even, soft, and intact. This is the normal finding.
- If the arm is stung by a bee, however, there will be a red, raised welt on the skin. The area of the sting is swollen, tender, and warm to the touch. The welt is an example of an abnormal finding.
- Thus, an infected, injured, or diseased structure—like a lymph node—may be palpable when normally it is not detectible.

TABLE 13-2 FINDINGS DETECTED BY PALPATION



Quality	Characteristics
Surface	Smooth or rough Flat or a raised knob, lump, or swelling
Shape	Irregular, round, oval
Consistency	Firm, hard, or spongy
Mobility	Mobile (moves independently of the underlying structure) Fixed (not freely mobile; stuck to underlying structures)
Tenderness	Amount of tenderness, if any, experienced by the patient when the structure is palpated

SECTION 3 • Peak Procedure

The head and neck examination involves the inspection and palpation of the structures of the head and neck. It is helpful to organize the structures to be examined into four subgroups:

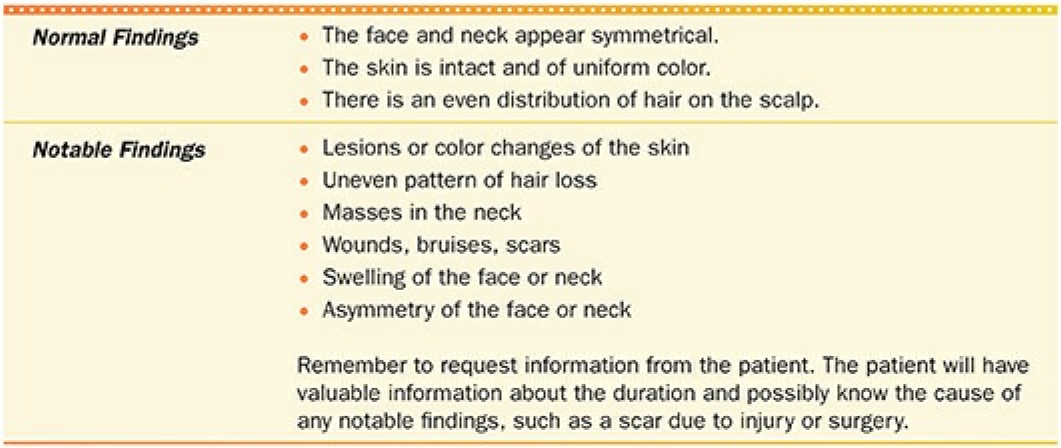
1. Overall appraisal, head, neck, face, and skin
2. Lymph nodes of the head and neck
3. Salivary and thyroid glands
4. The temporomandibular joint (TMJ)

Procedure 13-1. Head and Neck Examination

SUBGROUP 1: OVERALL APPRAISAL OF HEAD, NECK, FACE, AND SKIN

Table 13-3 presents an overview of normal and notable findings for the head and neck examination.

TABLE 13-3 OVERALL APPRAISAL: WHAT CAN I EXPECT TO FEEL?

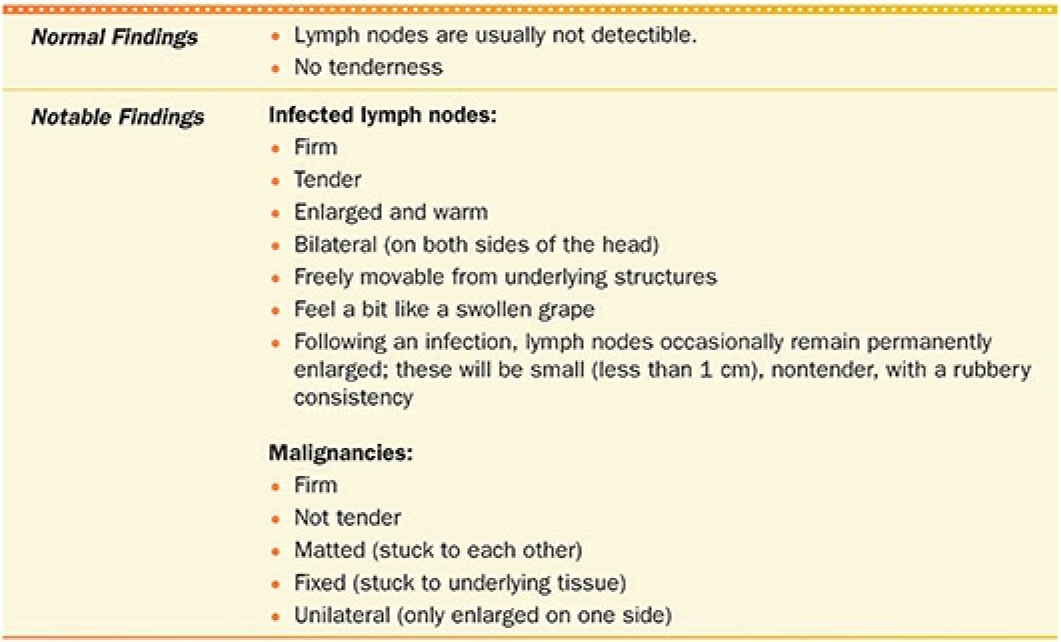


Normal Findings	• The face and neck appear symmetrical. • The skin is intact and of uniform color. • There is an even distribution of hair on the scalp.
Notable Findings	• Lesions or color changes of the skin • Uneven pattern of hair loss • Masses in the neck • Wounds, bruises, scars • Swelling of the face or neck • Asymmetry of the face or neck Remember to request information from the patient. The patient will have valuable information about the duration and possibly know the cause of any notable findings, such as a scar due to injury or surgery.

SUBGROUP 2: LYMPH NODES OF THE HEAD AND NECK

Table 13-4 presents an overview of normal and notable findings for the the lymph nodes of the head and neck region.

TABLE 13-4 LYMPH NODES: WHAT CAN I EXPECT TO FEEL?

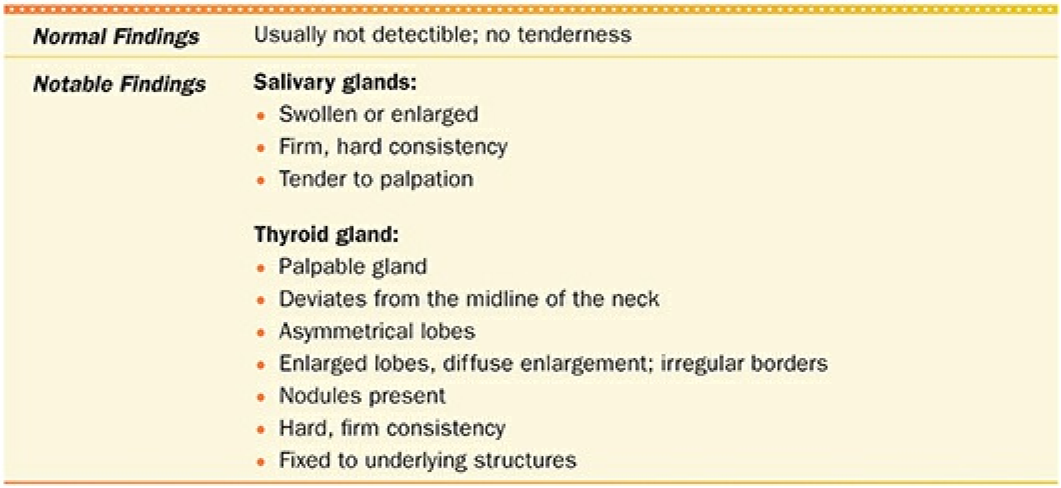


Normal Findings	• Lymph nodes are usually not detectible. • No tenderness
Notable Findings	**Infected lymph nodes:** • Firm • Tender • Enlarged and warm • Bilateral (on both sides of the head) • Freely movable from underlying structures • Feel a bit like a swollen grape • Following an infection, lymph nodes occasionally remain permanently enlarged; these will be small (less than 1 cm), nontender, with a rubbery consistency **Malignancies:** • Firm • Not tender • Matted (stuck to each other) • Fixed (stuck to underlying tissue) • Unilateral (only enlarged on one side)

SUBGROUP 3: SALIVARY AND THYROID GLANDS

Table 13-5 presents normal and notable findings for the salivary and thyroid glands.

TABLE 13-5 SALIVARY AND THYROID GLANDS: WHAT CAN I EXPECT TO FEEL?

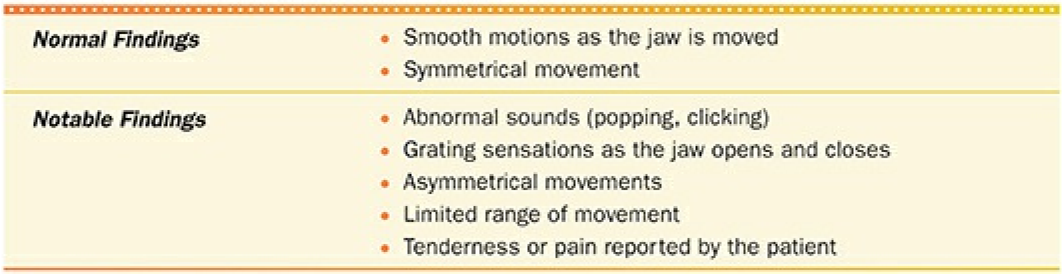


Normal Findings	Usually not detectible; no tenderness
Notable Findings	**Salivary glands:** - Swollen or enlarged - Firm, hard consistency - Tender to palpation **Thyroid gland:** - Palpable gland - Deviates from the midline of the neck - Asymmetrical lobes - Enlarged lobes, diffuse enlargement; irregular borders - Nodules present - Hard, firm consistency - Fixed to underlying structures

SUBGROUP 4: TEMPOROMANDIBULAR JOINT (TMJ)

Table 13-6 presents normal and notable findings for the TMJ.

TABLE 13-6 TEMPOROMANDIBULAR JOINT: WHAT CAN I EXPECT TO FEEL?



Normal Findings	- Smooth motions as the jaw is moved - Symmetrical movement
Notable Findings	- Abnormal sounds (popping, clicking) - Grating sensations as the jaw opens and closes - Asymmetrical movements - Limited range of movement - Tenderness or pain reported by the patient

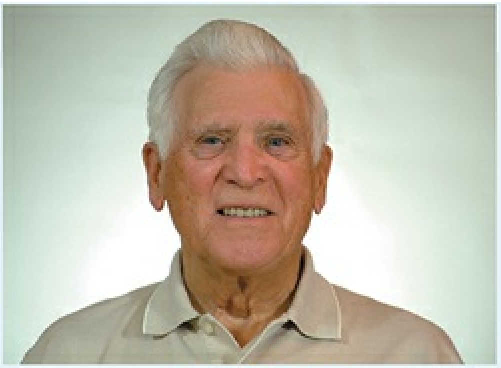
Procedure 13.1. Head and Neck Examination

EQUIPMENT

Gloves and optional overgloves
Small cup of water for patient use during thyroid exam

SUBGROUP 1: OVERALL APPRAISAL OF HEAD, NECK, FACE, AND SKIN

Action	Rationale
1. **General appraisal.** While seating and chatting with the	

patient, unobtrusively inspect the skin and facial symmetry of the face and neck. If problems are detected, question the patient about the onset, duration, and possible causes of any surface variations of the skin, such as lesions or scars.	 FIGURE 13-18
2. **Preparation and positioning.** Position the patient in an upright seated position. The patient should support his or her head in an upright position rather than resting it against the headrest. Ask the patient to remove eyeglasses and loosen clothing that limits examination of the neck. Wash and dry hands, don gloves. Donning overgloves at this time is optional.	• An upright head position makes the structures of the neck standout for easier examination. • The height of the patient chair should be positioned so that the clinician can easily reach all the structures to be examined. • Gloves prevent direct contact with open wounds, cuts, sores, or contagious skin conditions. • Donning overgloves at this time facilitates moving directly from the head and neck examination to the intraoral examination. The overgloves are removed before proceeding to the intraoral examination.
3. **Provide Information.** Briefly explain the	• Reduces patient apprehension and

examination procedure to the patient.	encourages patient cooperation.
4. **Head, scalp, and ears.** Change your position so that you are standing directly behind the patient. Visually inspect the head and scalp for any abnormalities. Inspect the ears.	• Lesions and head lice are common conditions that may be detected on the skin and scalp of the head. • The ears are common sites for lesions, such as basal cell carcinoma.

SUBGROUP 2: LYMPH NODES OF THE HEAD AND NECK

1. **Occipital lymph nodes.** The occipital nodes are located at the base of the skull.

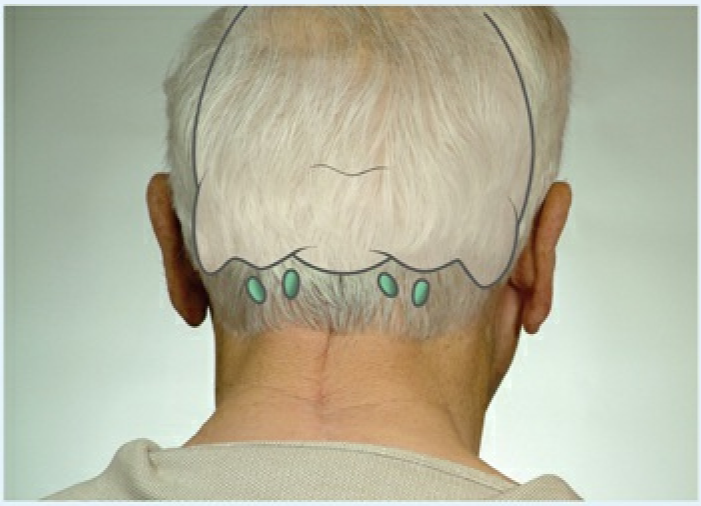


FIGURE 13-19

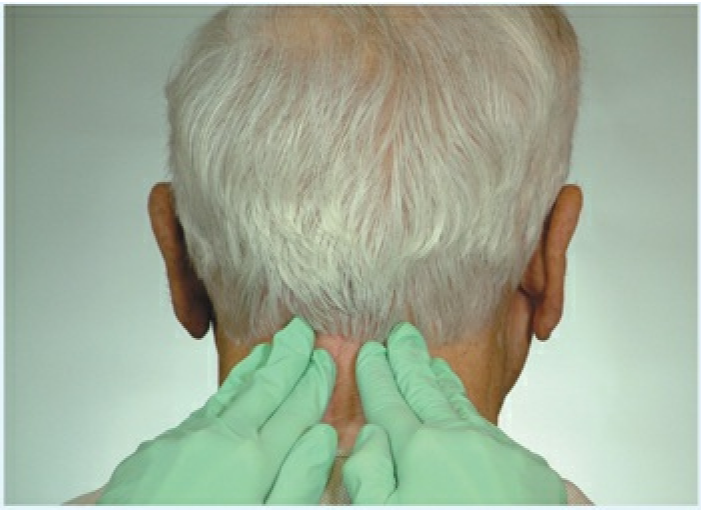


FIGURE 13-20

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Ask the patient to tip the head forward slightly. If applicable, the patient can assist by holding up long hair so that the neck is fully visible to the examiner.
3. **Palpation technique**
   - Position your fingertips at the base of the skull.
   - Begin at the midline of the neck, working outward along the hairline until the sternomastoid muscle is reached.
   - Use circular motions with your fingertips to compress the tissues against the base of the underlying bone.
   - Cover the area slightly above and below the hairline because the location of lymph nodes varies among patients.

2. **Posterior auricular lymph nodes.** The posterior auricular nodes are located behind each ear.

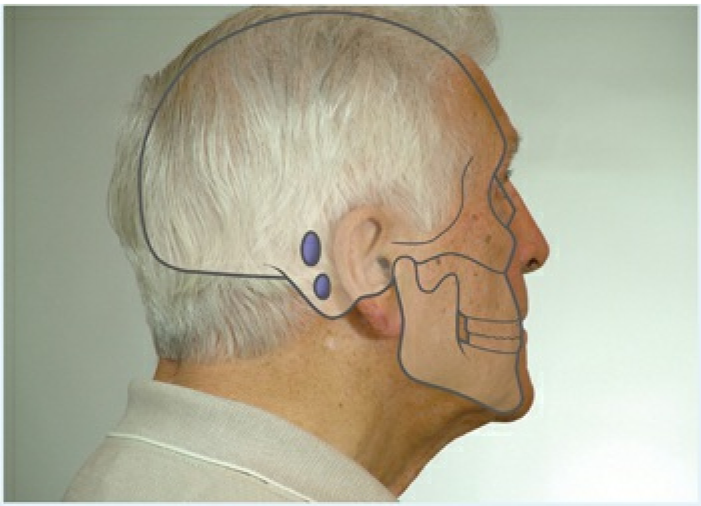


FIGURE 13-21

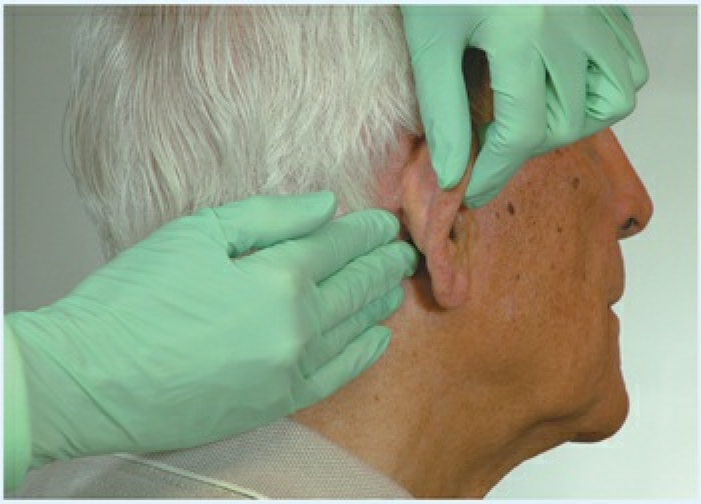


FIGURE 13-22

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in an upright position. If applicable, the patient can assist by holding up long hair so that the neck is fully visible to the examiner.
3. **Palpation technique**
   - ***Inspect each ear separately, beginning with the right ear.***
   - Displace the right ear forward to visually inspect the back of the ear and the skin behind the ear. The ears are common sites for lesions, such as basal cell carcinoma.

- Palpate the posterior auricular nodes using steady, gentle circular motions with your fingertips to compress the tissues against the bone of the patient's skull.
- Repeat this procedure to examine the back of the left ear and the skin behind it.

3. **Preauricular lymph nodes.** The preauricular nodes are located in front of the ears.

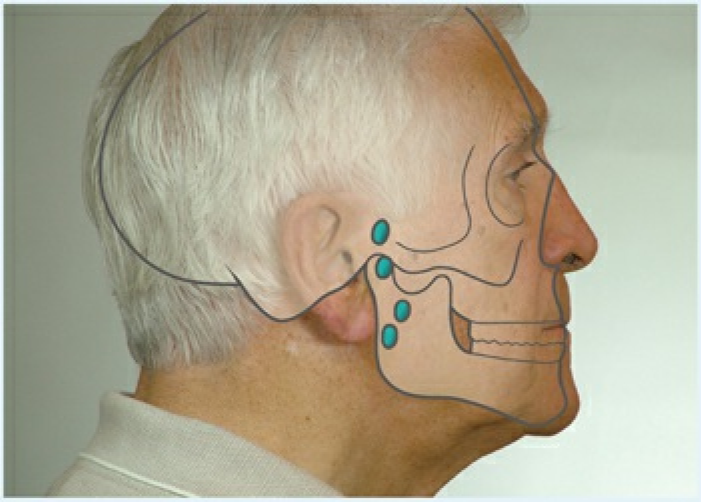


FIGURE 13-23

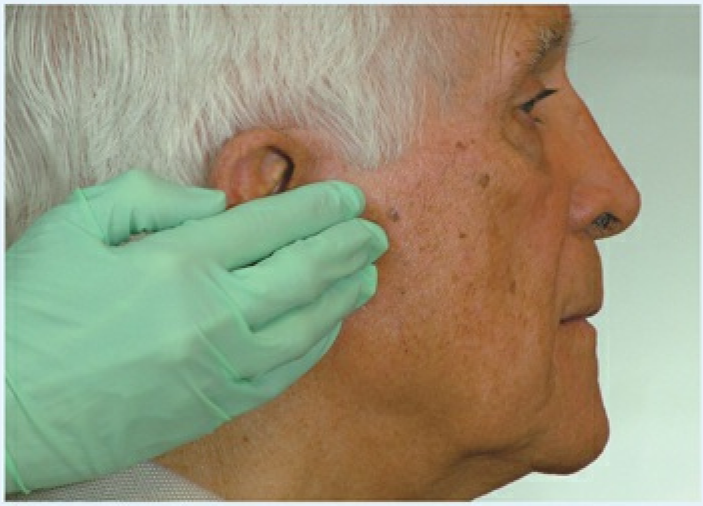


FIGURE 13-24

1. Your position. Stand behind the patient.

2. **Patient's position.** Head in an upright position.

3. **Palpation technique**
   - Palpate the preauricular nodes using steady, gentle circular motions with your fingertips against the underlying bone.
   - Note tender or enlarged lymph nodes.

4. **Submental lymph nodes.** The submental nodes are located under the jaw on either side of the midline of the mandible.

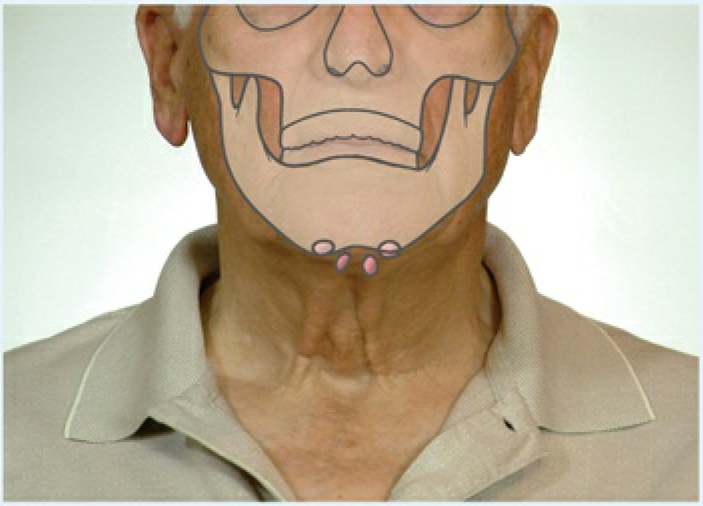


FIGURE 13-25

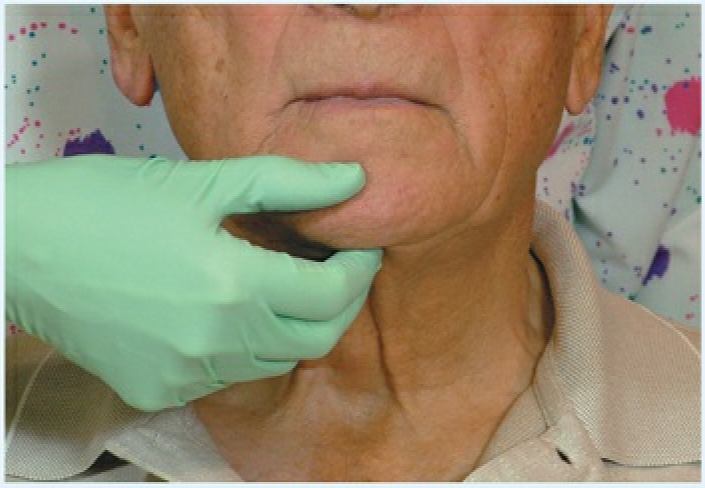


FIGURE 13-26

1. **Your position.** Stand behind or to the side of the patient.

2. **Patient's position.** Head in upright position.
3. **Palpation technique**
    - Use your thumb and index finger to compress the area behind and beneath the symphysis (midline area) of the mandible.
    - Note tender or enlarged nodes.

5. **Submandibular lymph nodes.** The submandibular nodes are under the jaw, along the side of the mandible.

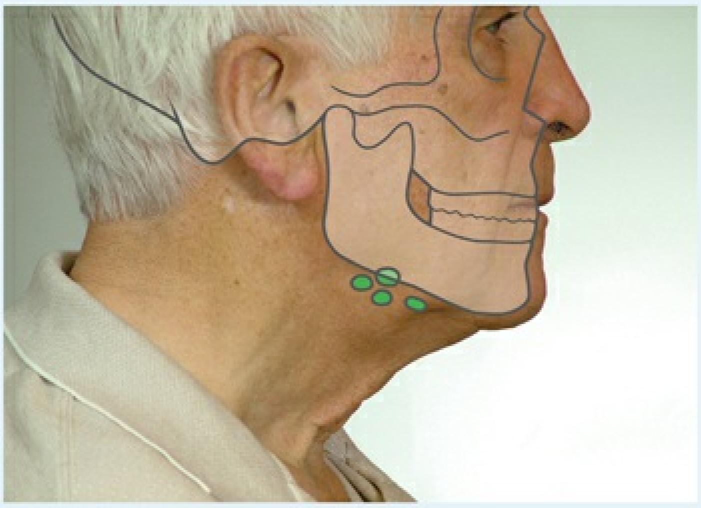


FIGURE 13-27

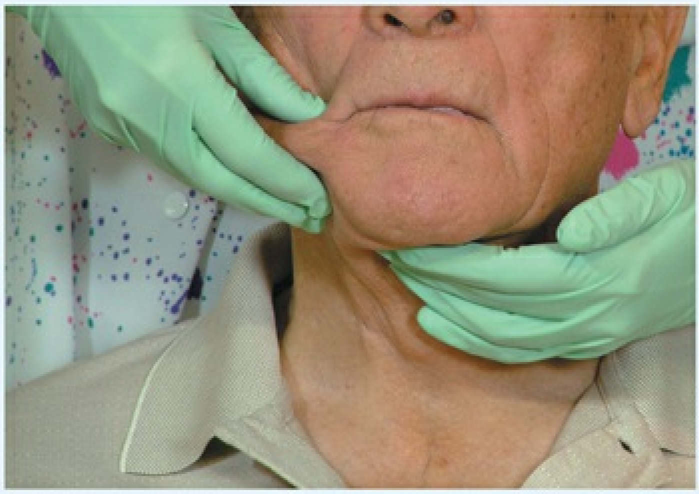


FIGURE 13-28

1. **Your position.** Stand behind the patient.

2. **Patient's position.** Head in upright position.
3. **Palpation technique**
   - Begin with the submandibular nodes on the right side of the head
   - To facilitate palpation, ***use your left hand as a stabilizing hand*** to move the tissue under the chin toward the right side of the neck. Moving the tissue toward the right side assists the examiner in rolling the tissue over the right side of the mandible.
   - ***Your right hand is used for palpation***. Cup your fingers under the chin; roll the tissue up and over the inferior border of the mandible. Keeping the fingertips in place, allow the tissue to slowly slide down over the mandible, back into normal position. As the tissue moves over the mandible, you can detect enlarged nodes.
   - Examine the submandibular nodes on the left side of the jaw, using a similar procedure.

6. **Cervical lymph nodes medial to muscle.** The anterior chain of cervical lymph nodes lie above the sternomastoid muscle.

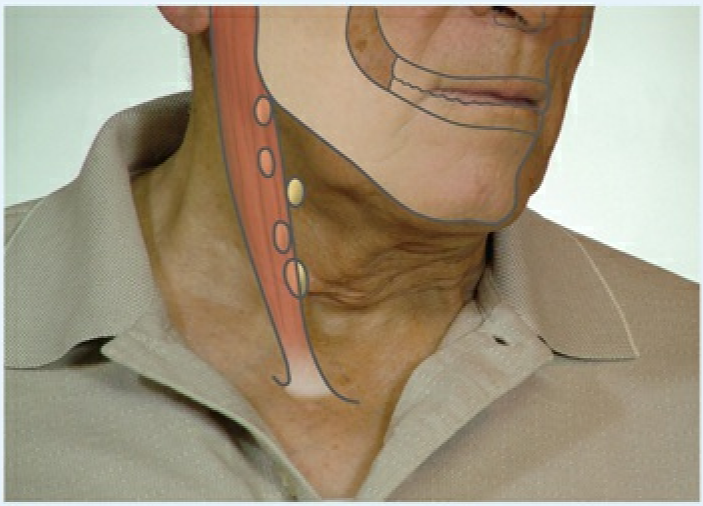


FIGURE 13-29

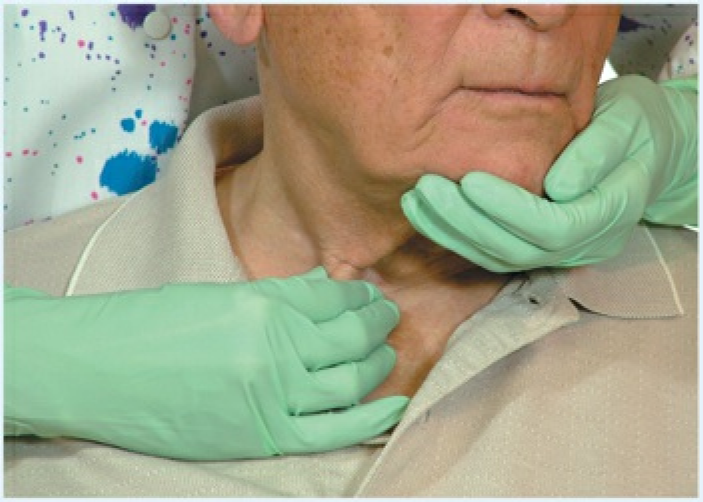


FIGURE 13-30

1. **Your position.** Stand behind the patient.
2. **Patient's position**. Ask the patient to tip the chin down slightly and turn the head to the left. This position makes the sternomastoid muscle stand out. ***Support the patient's chin with your left hand.***
3. **Palpation technique.**
   - Palpate the cervical nodes medial to the sternomastoid muscle, beginning with those on the right side of the neck.
   - With your *right hand*, grasp the body of the muscle between your fingertips and thumb.
   - Rotate your fingertips back and forth over the muscle, covering its entire length from behind the ear to the clavicle.

7. **Cervical lymph nodes posterior to muscle.** The posterior chain of cervical lymph nodes lie beneath and posterior to the sternomastoid muscle.

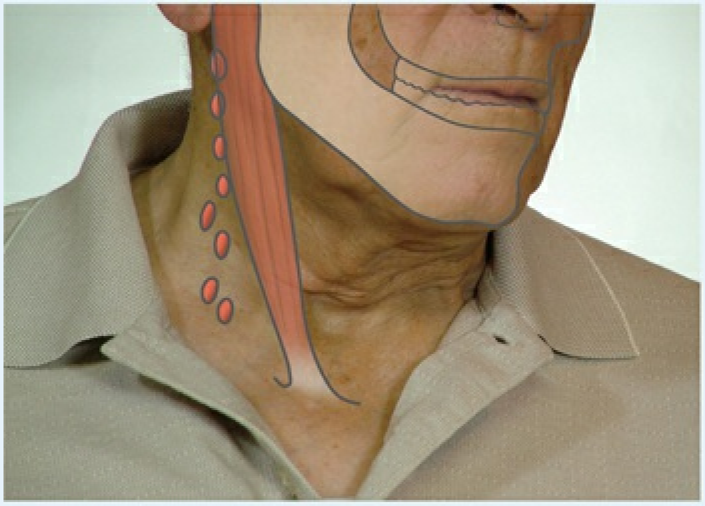


FIGURE 13-31

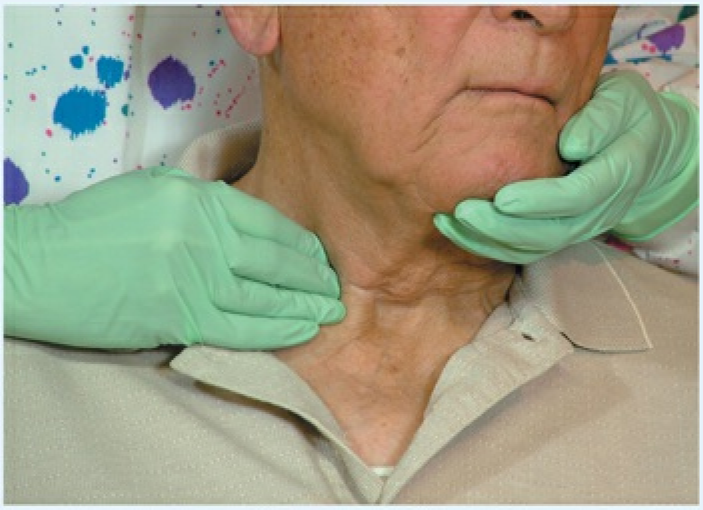


FIGURE 13-32

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Ask the patient to maintain the same head position as when palpating the lymph nodes medial to the muscle.
3. **Palpation technique**
   - Begin by palpating the nodes on the right side of the neck.
   - Palpate the nodes by positioning the fingertips of your index and middle fingers under (behind) the muscle and applying gentle compression against the underlying tissues along the

entire length of the muscle from behind the ear to the clavicle.

- Repeat this procedure to examine the cervical nodes medial and posterior to the sternomastoid muscle on the left side of the neck.

8. **Supraclavicular lymph nodes.** The supraclavicular nodes are located in the angle formed between the sternomastoid muscle and the clavicle.

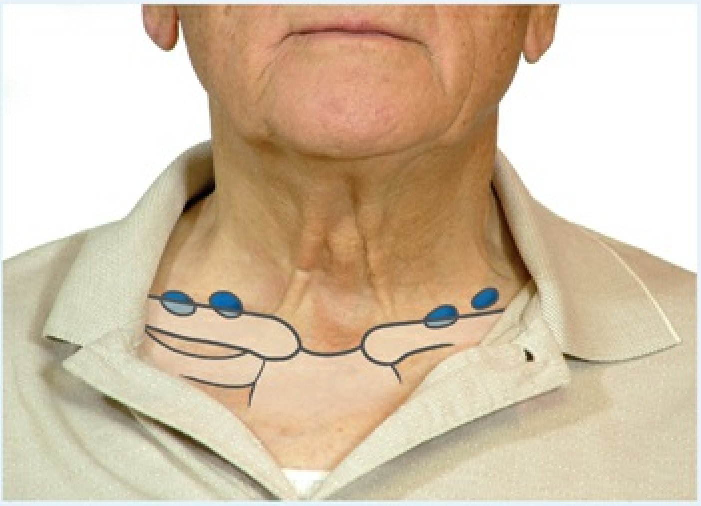


FIGURE 13-33

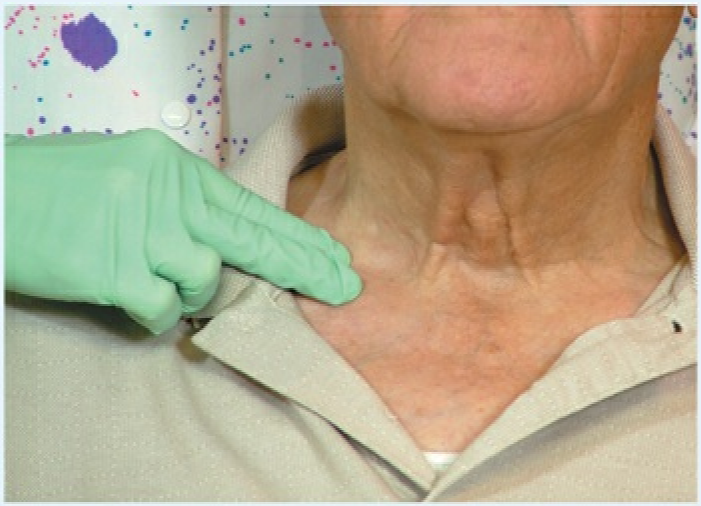


FIGURE 13-34

1. **Your position.** Stand to the side or behind the patient.

2. **Patient's position.** Ask the patient to face forward with the chin tipped slightly downward. This position facilitates palpation by relaxing the muscles in the neck.
3. **Palpation technique**
   - Place your index and middle fingers above the clavicle on the right side of the neck and apply circular compression.
   - Palpate the supraclavicular nodes on the left side using the same technique.

SUBGROUP 3: SALIVARY AND THYROID GLANDS

1. **Parotid glands.** The parotid gland is located between the ear and the jaw.

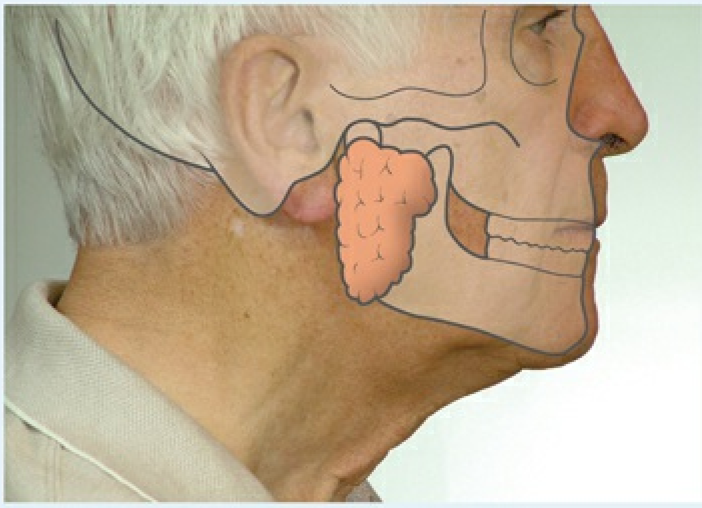


FIGURE 13-35

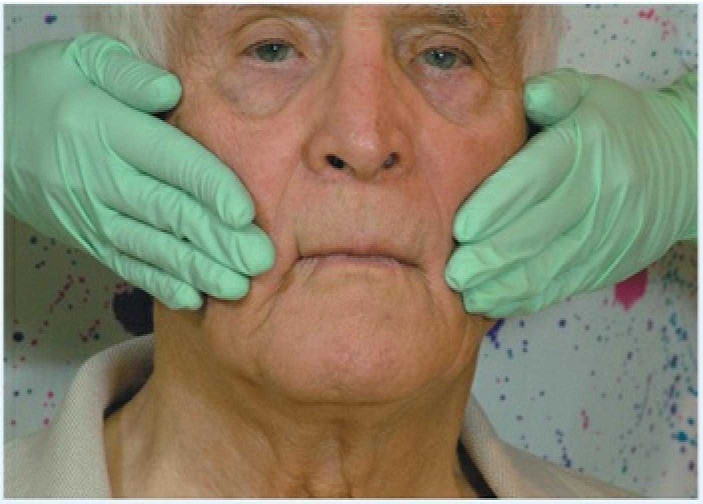


FIGURE 13-36

1. **Your position.** Stand behind or slightly to the side of the patient.
2. **Patient's position.** Head in upright position.
3. **Palpation technique**
    - Place the palms of your hands in front of the ears with your fingers extending the full length of the cheek so that you can palpate the entire gland.
    - Use circular compression to compress the tissue against the cheekbones.
    - A normal parotid gland is difficult to detect by palpation; however, an enlarged gland or nodules in the gland are palpable.
    - Pain or tenderness may be related to salivary stones, inflammation, or cancer.

2. **Submandibular glands—locate.** The submandibular gland sits below the jaw toward the back of the mouth.

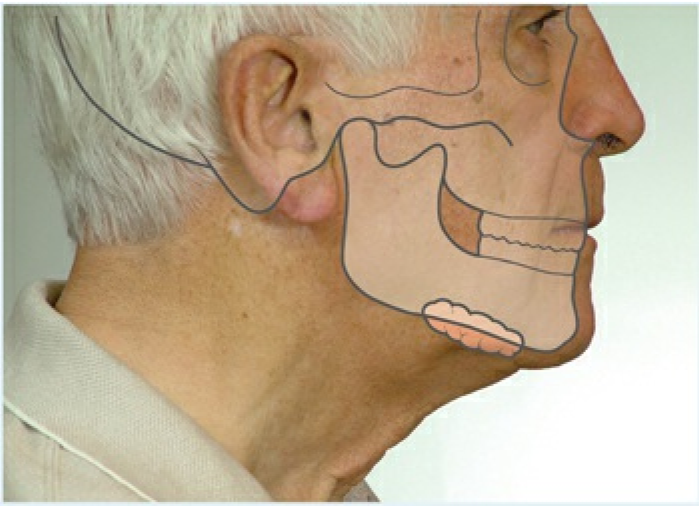


FIGURE 13-37

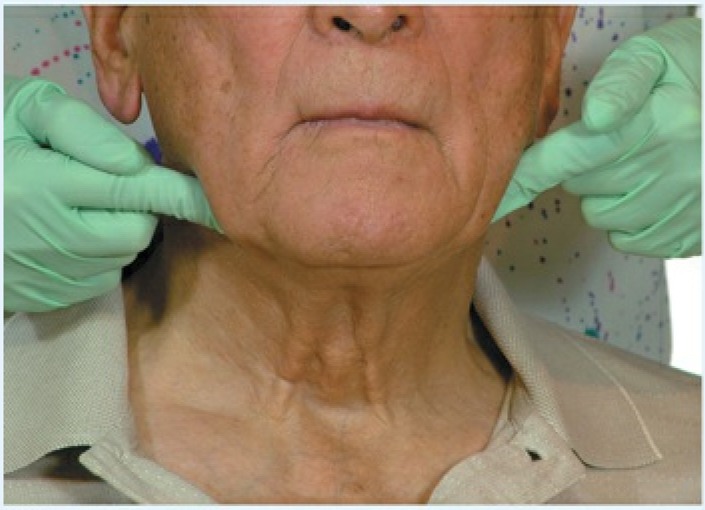


FIGURE 13-38

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in upright position.
3. **Locate the submandibular gland.**
    - Locate the submandibular salivary glands by placing your index fingers near the angle of the mandible and then moving forward along the mandible to locate the slight depression in the inferior border of the mandible—the **antegonial notch**.
    - ***Continue to the next page for the palpation technique for***

the submandibular glands.

3. **Submandibular glands—palpate.**

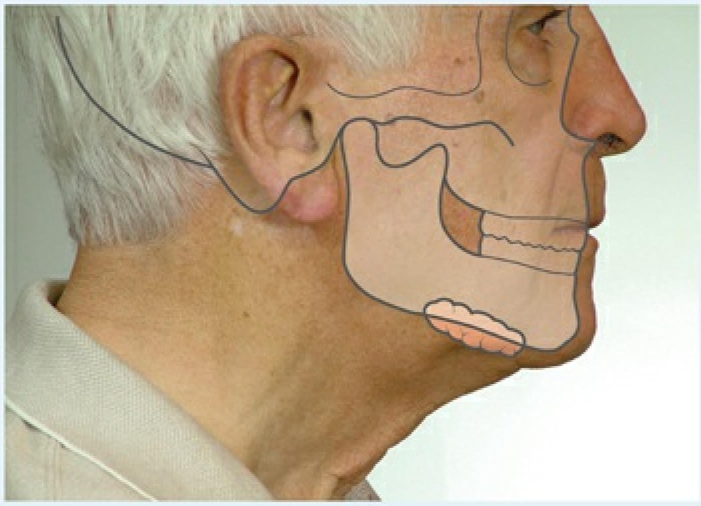


FIGURE 13-39

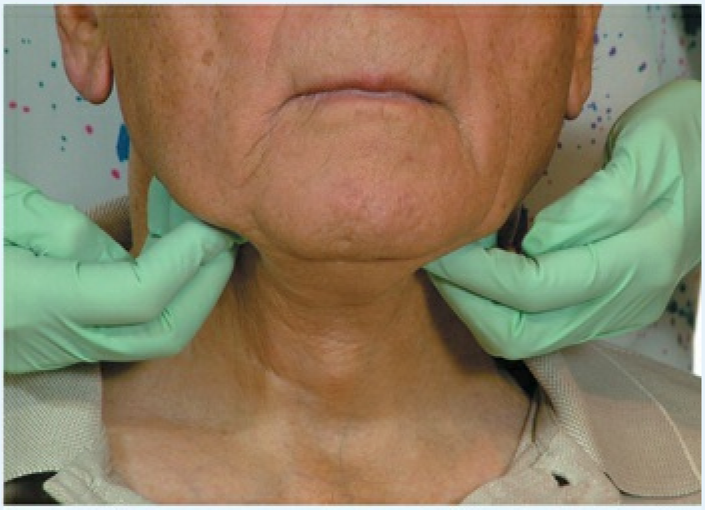


FIGURE 13-40

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in upright position.
3. **Palpation technique**
    - Move your fingers under the chin to locate the gland on both sides of the head.
    - Ask the patient to press the tip of his or her tongue against

the roof of her mouth. This causes the mylohyoid and tongue muscles to tense, making it easier to palpate the submandibular gland.

- Bilaterally compress the glands upward against the tensed muscles.

4. **Thyroid gland—locate.** The thyroid gland is located in the middle of the lower neck. It is situated below the larynx, over the trachea, and just above the clavicles.

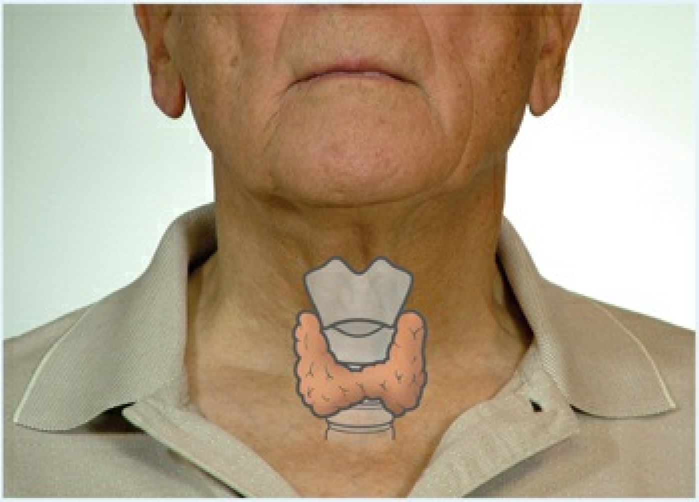


FIGURE 13-41

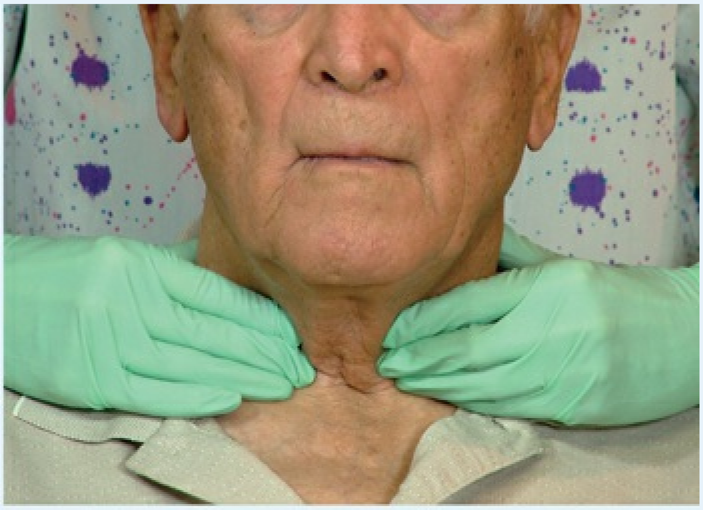


FIGURE 13-42

1. **Your position.** Stand behind the patient.

2. **Patient's position.** Head in upright position.
3. **Locate the thyroid gland.**
    - Find the thyroid cartilage (the Adam's apple) at the midline of the neck. The thyroid gland lies approximately 2–3 cm below the thyroid cartilage.
    - Give the patient a cup of water and ask him or her to swallow as you watch this region. The thyroid gland, along with the adjacent structures, will move up and down with swallowing.
    - The normal thyroid is not visible, so observing the neck during swallowing is helpful in locating the gland. Once you have located the gland, you are ready to palpate it.[10]
    - ***Continue to the next page for the palpation technique for the thyroid gland.***

5. **Thyroid gland—palpate right lobe.**

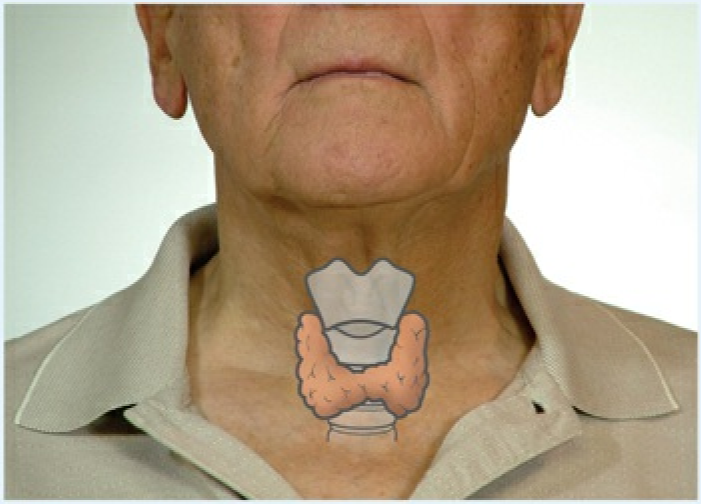


FIGURE 13-43

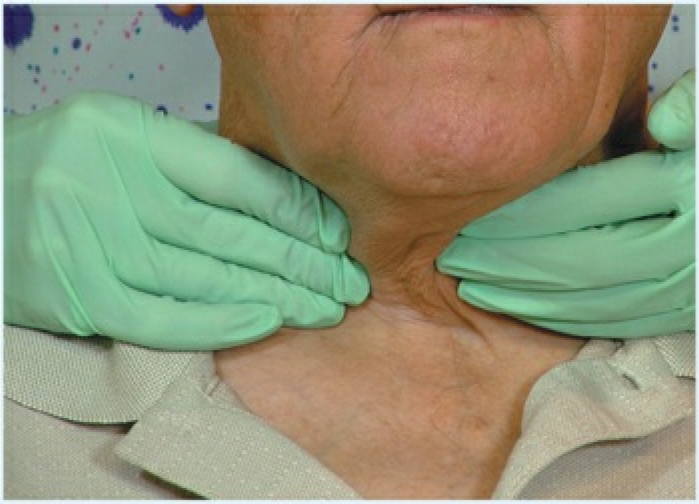


FIGURE 13-44

1. **Your position.** Stand behind the patient and position your hands with thumbs on the nape of the neck.
2. **Patient's position.** Ask the patient to flex the neck forward and tilt the head slightly to the right. This relaxes the neck muscles for easier palpation.
3. **Palpation technique.** Begin with the right lobe of the gland.
    - ***Use your left hand as a stabilizing hand*** to displace the trachea slightly to the right.
    - ***Use your right hand for palpation.*** Position your fingers between the Adam's apple and the sternomastoid muscle. ***Rest your fingers lightly in a stationary position.***
    - Ask the patient to take a sip of water and swallow, as the fingers of your right hand rest lightly on the neck. The gland slides beneath your fingers as it moves up and down during swallowing. Repeat this process several times.
    - A normal gland is undetectable or barely detectable. Do not be disappointed if you do not identify the gland. If the gland is detectable, this is a notable finding.
    - Repeat a similar maneuver to examine the left lobe of the thyroid gland.

SUBGROUP 4: TEMPOROMANDIBULAR JOINT (TMJ)

1. **(TMJ)—locate.**

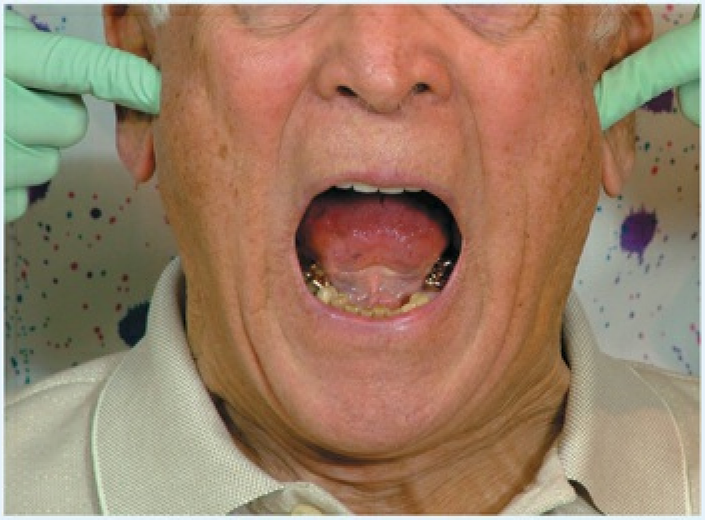


FIGURE 13-45

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in upright position.
3. **Locate the TMJ.**
    - Locate the joints by placing your index fingers just in front of the tragus of each ear.
    - Ask the patient to open and close the mouth. As the mouth is opened and closed, your fingertips should drop into the joint spaces.
    - ***Continue to the next page for directions on palpating the TMJ.***

2. **TMJ—palpate.**

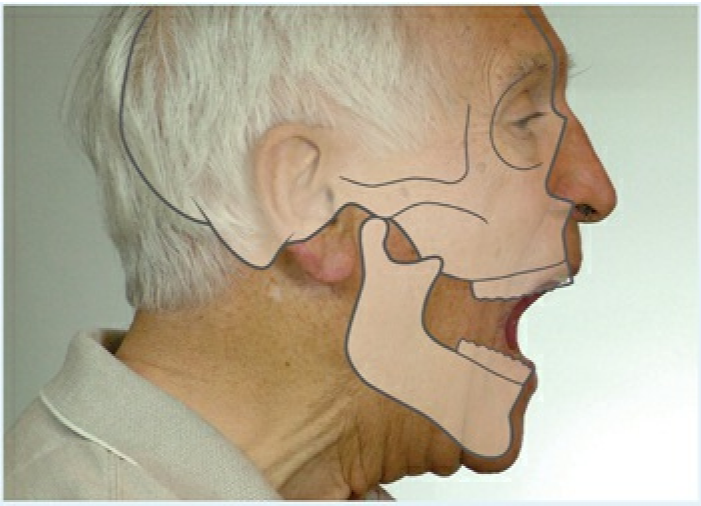


FIGURE 13-46

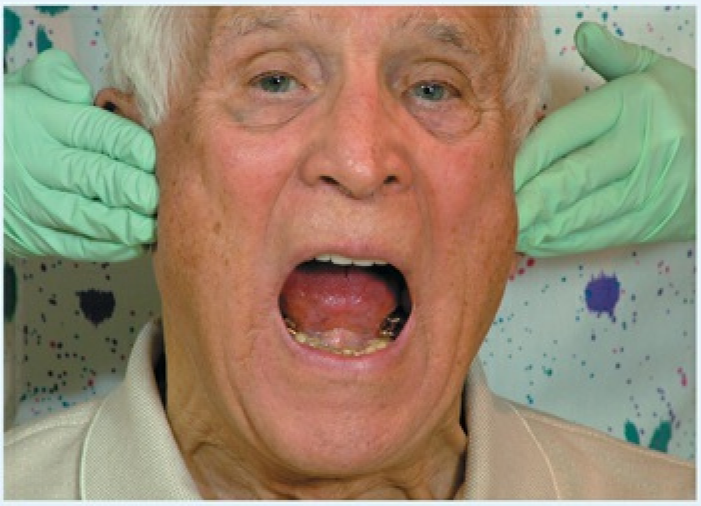


FIGURE 13-47

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in upright position.
3. **Palpation technique**
   - Place your fingertips over the joints. Palpate the joints as the patient slowly opens and closes several times.
   - Note any deviations during opening.
   - ***Continue to the next page for directions on palpation during lateral excursions.***

3. **TMJ—lateral excursions (side to side movements of the jaw).**

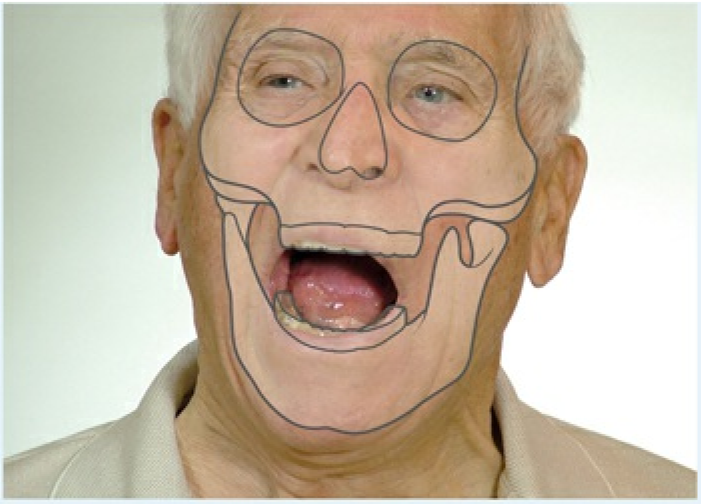


FIGURE 13-48

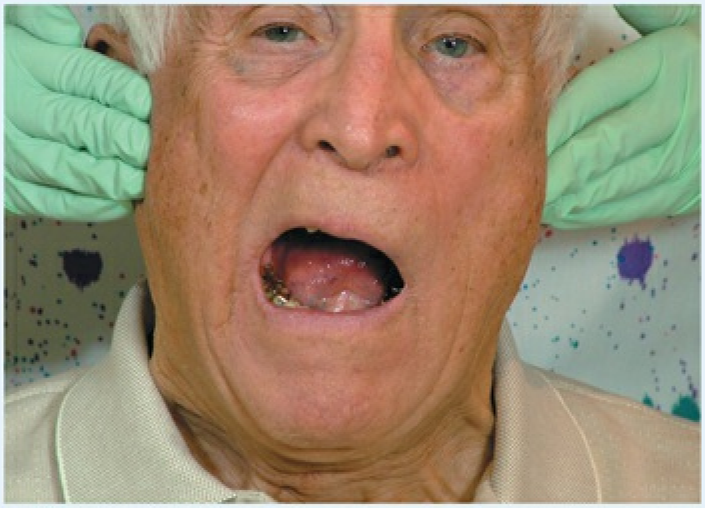


FIGURE 13-49

1. **Your position.** Stand behind the patient.
2. **Patient's position.** Head in upright position.
3. **Palpation technique**
    - Maintaining your hands in the same position, ask the patient to open slightly and move the lower jaw laterally to the right.
    - Repeat this maneuver, with the patient moving the lower jaw to the left.
    - Finally, ask the patient to protrude the lower jaw forward.

- Listen for abnormal sounds such as popping or clicking.

4. **Optional examination: TMJ—range of motion.**

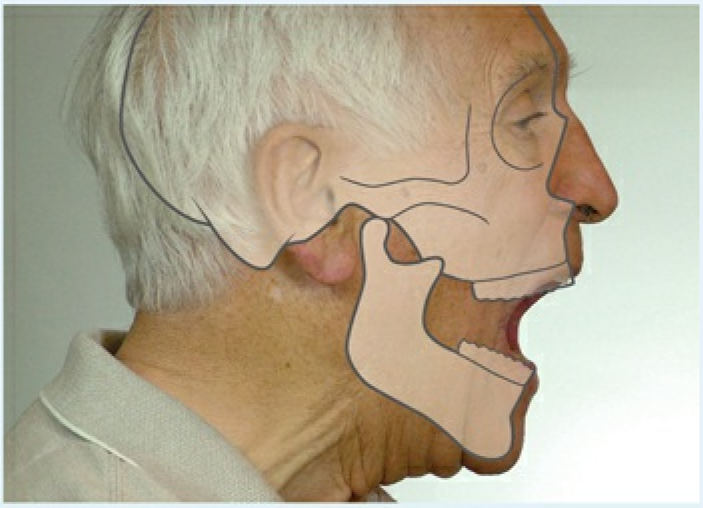


FIGURE 13-50

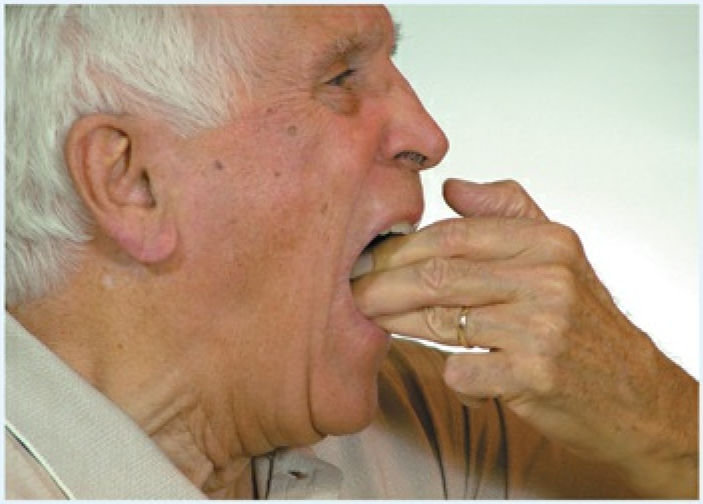


FIGURE 13-51

Assessment of the range of motion is optional, based on notable findings from the TMJ assessment.

- Assess normal range of motion by asking the patient to place the index, middle, and ring fingers between the incisal edges of the upper and lower incisors. The patient's own fingers are proportional to his or her jaw and are a good indication of adequate range of motion.

5. Document. Document all notable findings in the patient chart or computerized record.

SECTION 4 • The Human Element

Through the Eyes of a Cancer Survivor

JUST A “BEAUTY MARK”

About 10 years ago, while I was pregnant with my first child, my mother urged me to go and have the small brown spot above my upper lip checked by a doctor. At the time, I was excited and busy getting ready for my first child, and I decided that the brown spot was just like a beauty mark. I knew that it had only appeared about a year ago, but I did not want to worry about it. After all, I saw my obstetrician each month, and I had just had a dental exam last month. Surely, my doctor or my dentist would have noticed the brown spot above my lip and told me if it was a problem. Wouldn’t they?

Well, finally, because my mother just insisted, I went to see my regular doctor to ask about the brown “beauty” mark. I was shocked when he wanted to remove the spot and send it off to the lab. The test results showed that the brown spot was cancer, and I had to have additional surgery to make sure that all the cancer cells had been removed.

Six years ago, I went back to school and became a dental hygienist. Today, as a dental hygienist, I stress the importance of a yearly head, neck, and oral cancer examination to all my patients. My experience made me so aware that many health professionals have tunnel vision. My obstetrician concentrated on my pregnancy. My dentist looked at my teeth but did not look up an inch to notice the brown spot above my upper lip. As future dental health care providers, I strongly urge you to remember that doing a cancer exam and following up on any changes could save a patient's life.

Cathy, RDH,
Cancer Survivor

Ethical Dilemma

THE HEAD AND NECK EXAM

Utsava is in her last semester of dental hygiene school, and her patient for the day just cancelled. Desperate, she calls any relative that she can think of who may be available. Her brother-in-law, Paresh, a 32-year-old engineer, agrees to be her patient for the day.

Paresh's medical history assessment indicates that he has not seen a physician or dentist for over 10 years. Utsava performs a head and neck examination and asks her instructor, Professor Miller, to check it so she can progress with the appointment.

Utsava reports to her instructor that all areas of the head and neck examination were all “within normal limits.” Professor Miller asks Paresh to tip his head forward so she can both observe and palpate his occipital lymph nodes. As soon as she does, Professor Miller both notices and palpates an enlargement in Paresh’s occipital area, which extends from the nape of his neck all the way under his hairline. Professor Miller points out the enlargement to Utsava, who states that she just thought that it was part of Paresh’s normal anatomy. Utsava states that as long as she has known Paresh, his occipital area has looked like this. Utsava does admit that looking closely at it now the area appears to have enlarged over the last few years. Professor Miller is very concerned about the finding, as she feels that it is outside the limits of normal.

1. What ethical principles are involved in this scenario?

2. How should Utsava address Paresh’s treatment?

3. What should Utsava do when treating future patients?

English-to-Spanish Phrase List

TABLE 13-7 ENGLISH-TO-SPANISH PHRASE LIST FOR HEAD AND NECK EXAMINATION

Next, I will do a head and neck exam.	Ahora voy hacer una examinacion de la cabesa y el cuello
Just relax. This examination is not painful and only takes a few minutes.	No tenga miedo. La examinacion no duele, y solamente toma unos minutos
At any time during the examination, please tell me if any area is tender.	Ha cualquier tiempo durante la examinacion, por favor digame si tiene algun area que es sensible
Please tilt your head forward (back).	Por favor incline su cabeza hacia delante Por favor incline su cabeza para atras
Please **turn** your head to the right (left).	Por favor vuelta su cabeza para la derecha Por favor vuelta su cabeza para la izquierda
Please **tilt** your head to the right (left).	Por favor incline su cabeza para la derecha Por favor incline su cabeza para la izquierda
Please look straight ahead.	Por favor mire ha el frente
I will check the lymph nodes in your head and neck.	Voy ha examinar las glandulas tiroides en su cabeza y cuello
The lymph nodes are part of the body's defenses; they act as a filtering system to remove bacteria and viruses from your system.	Las gladulas tiroides son parte de las defensas naturales de el cuerpo; estas filtran fluidos en el cuerpo y protegen contra bacterias y virus
Please press your tongue against the roof of your mouth.	Por favor aprete su lengua contra el techo de la boca
Now, I will check your saliva glands.	Ahora voy ha examinar la glandula de saliva
Next, I will check your thyroid gland.	Ahora voy ha examiner la glandula
Please take a sip of water and hold it in your mouth. Please swallow.	Tome un poco de agua y aguantela en su boca. Por favor trage
Now, I will check the joint in your jaw.	Ahora examinare la articulacion de la mandibula
Please slowly open and close your mouth.	Por favor abra y ciere su boca, pero despacio
Please move your lower jaw to the right (left).	Por favor vuelta la mandibula a la derecha. Por favor vuelta la mandibula a la izquierda
Several of your lymph nodes are swollen. Have you been ill or had an infection?	Varios de sus glandulas tiroides estan hinchadas. ¿Ha estado enfermo or ha tenido alguna infeccion?
Everything looks (feels) fine.	Todo luce (se siente) bien

Continued on following page

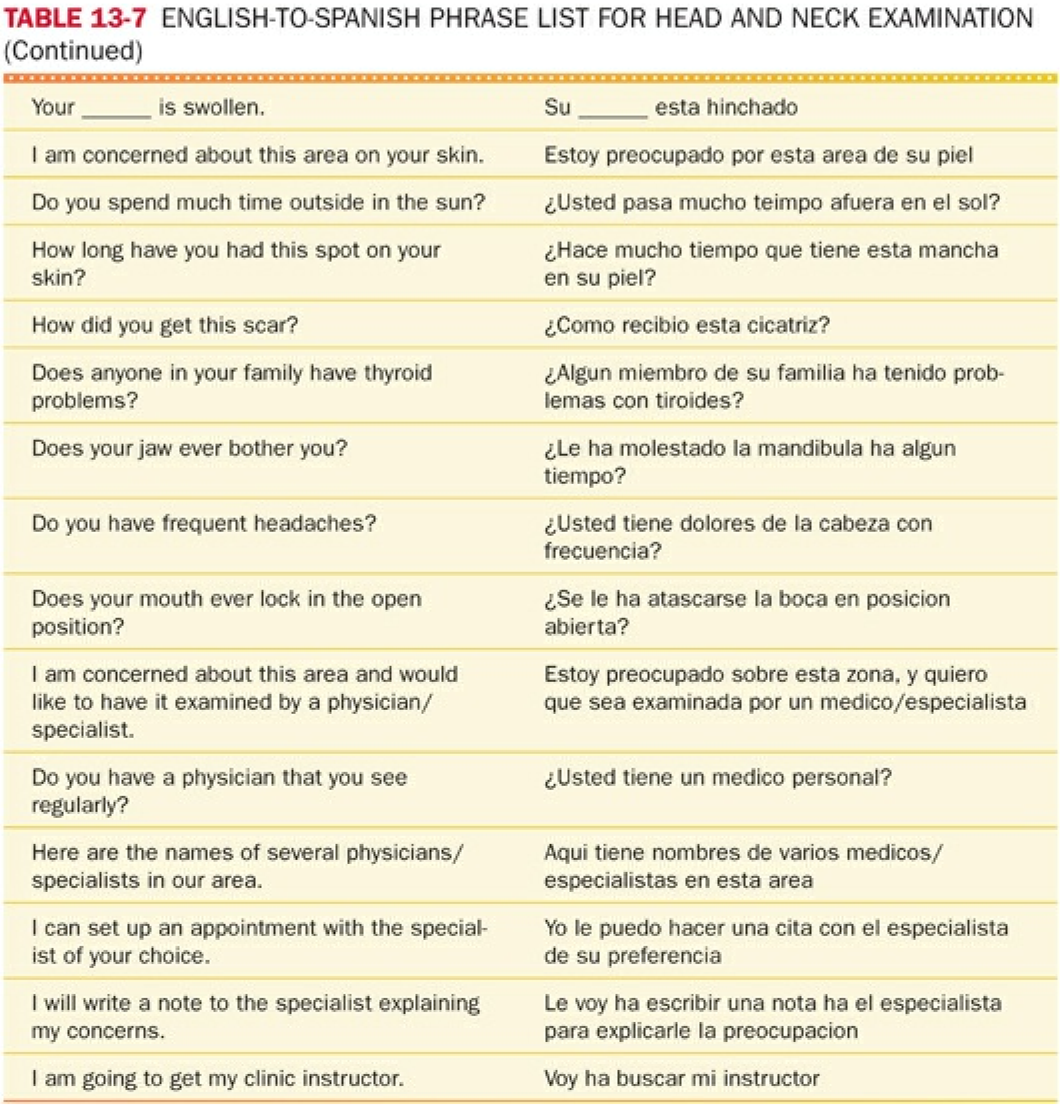


TABLE 13-7 ENGLISH-TO-SPANISH PHRASE LIST FOR HEAD AND NECK EXAMINATION (Continued)

Your _____ is swollen.	Su _____ esta hinchado
I am concerned about this area on your skin.	Estoy preocupado por esta area de su piel
Do you spend much time outside in the sun?	¿Usted pasa mucho teimpo afuera en el sol?
How long have you had this spot on your skin?	¿Hace mucho tiempo que tiene esta mancha en su piel?
How did you get this scar?	¿Como recibio esta cicatriz?
Does anyone in your family have thyroid problems?	¿Algun miembro de su familia ha tenido problemas con tiroides?
Does your jaw ever bother you?	¿Le ha molestado la mandibula ha algun tiempo?
Do you have frequent headaches?	¿Usted tiene dolores de la cabeza con frecuencia?
Does your mouth ever lock in the open position?	¿Se le ha atascarse la boca en posicion abierta?
I am concerned about this area and would like to have it examined by a physician/specialist.	Estoy preocupado sobre esta zona, y quiero que sea examinada por un medico/especialista
Do you have a physician that you see regularly?	¿Usted tiene un medico personal?
Here are the names of several physicians/specialists in our area.	Aqui tiene nombres de varios medicos/especialistas en esta area
I can set up an appointment with the specialist of your choice.	Yo le puedo hacer una cita con el especialista de su preferencia
I will write a note to the specialist explaining my concerns.	Le voy ha escribir una nota ha el especialista para explicarle la preocupacion
I am going to get my clinic instructor.	Voy ha buscar mi instructor

SECTION 5 • Practical Focus—Fictitious Patient Cases

DIRECTIONS

- The photographs in this section show the findings from the head and neck examination of five fictitious patients, patients A to E. Refer to previous modules to refresh your memory regarding each patient's health history and vital signs because there may be a connection between the patient's systemic health status or habits and the findings from the head and neck examination.
- Use the Lesion Descriptor Worksheet to develop descriptions for the

notable findings of fictitious patients A to E.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

Sources of Clinical Photographs in this Section

The author gratefully acknowledges the sources of the following clinical photographs in the "Practical Focus" section of this module.

- Figure 13-52. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 13-54. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 13-58. Dr. Richard Foster, Guildford Technical Community College, Jamestown, NC.
- Figure 13-60. Image provided by *Stedman's Medical Dictionary*.

Fictitious Patient Case A: Mr. Alan Ascari

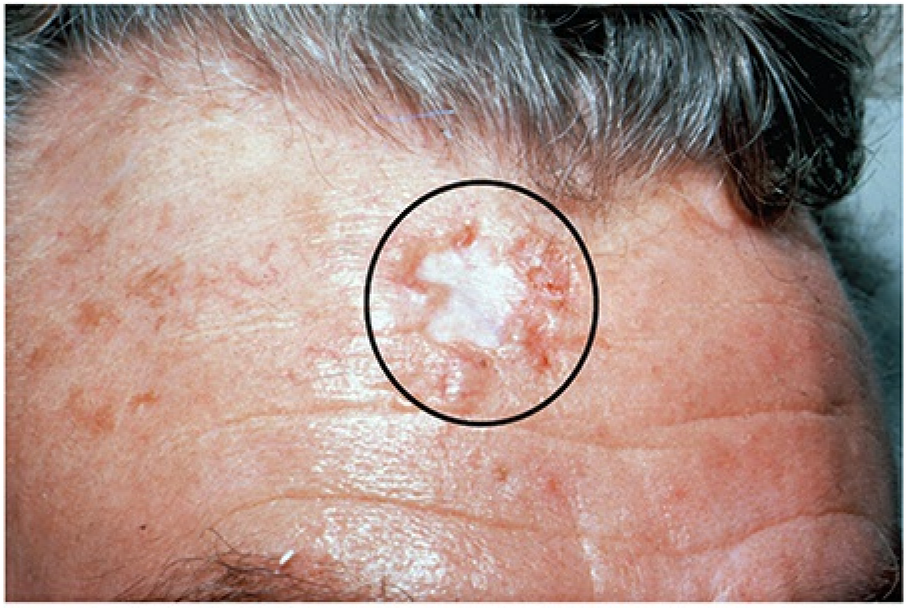
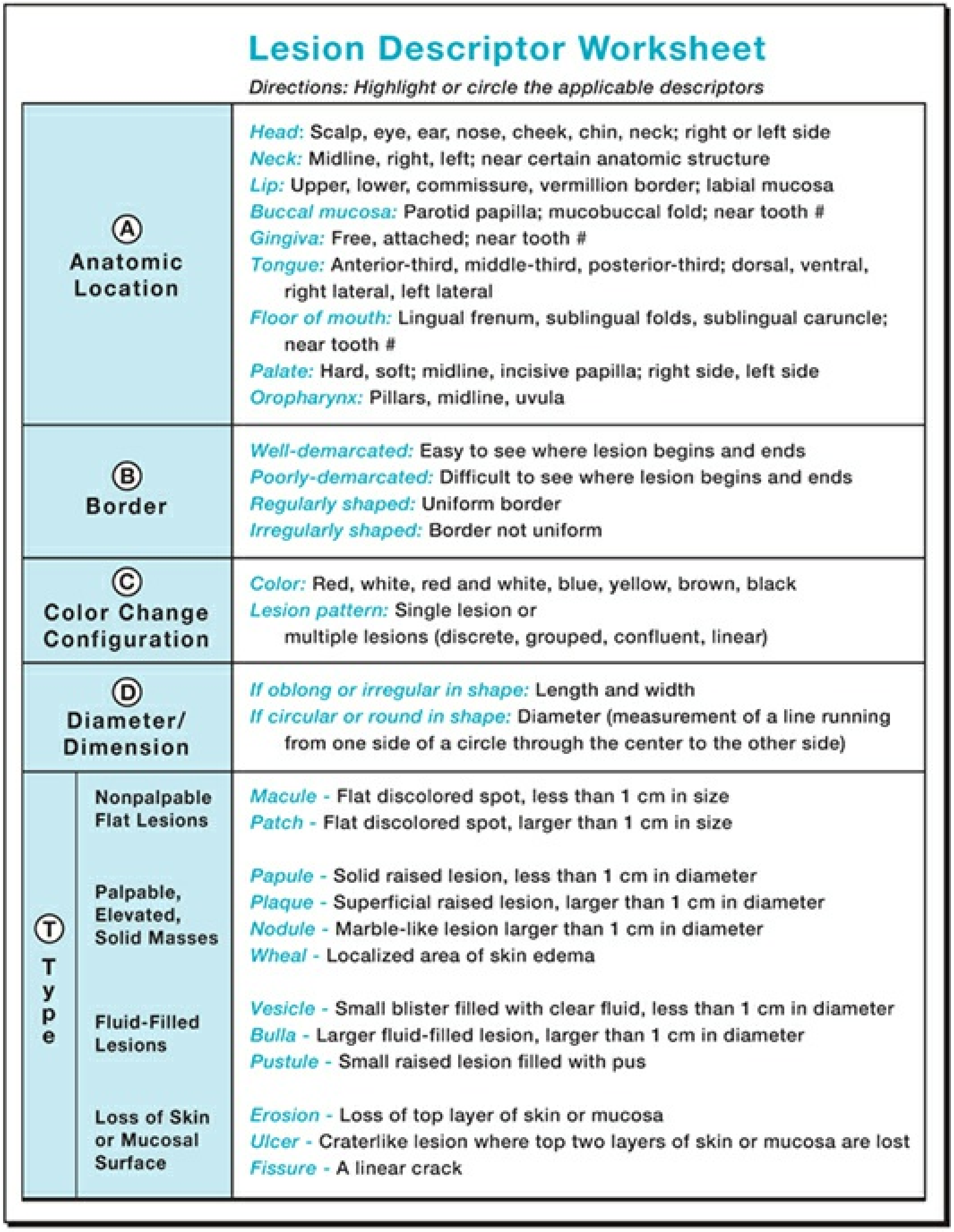


FIGURE 13-52 **Mr. Ascari: finding on forehead.**

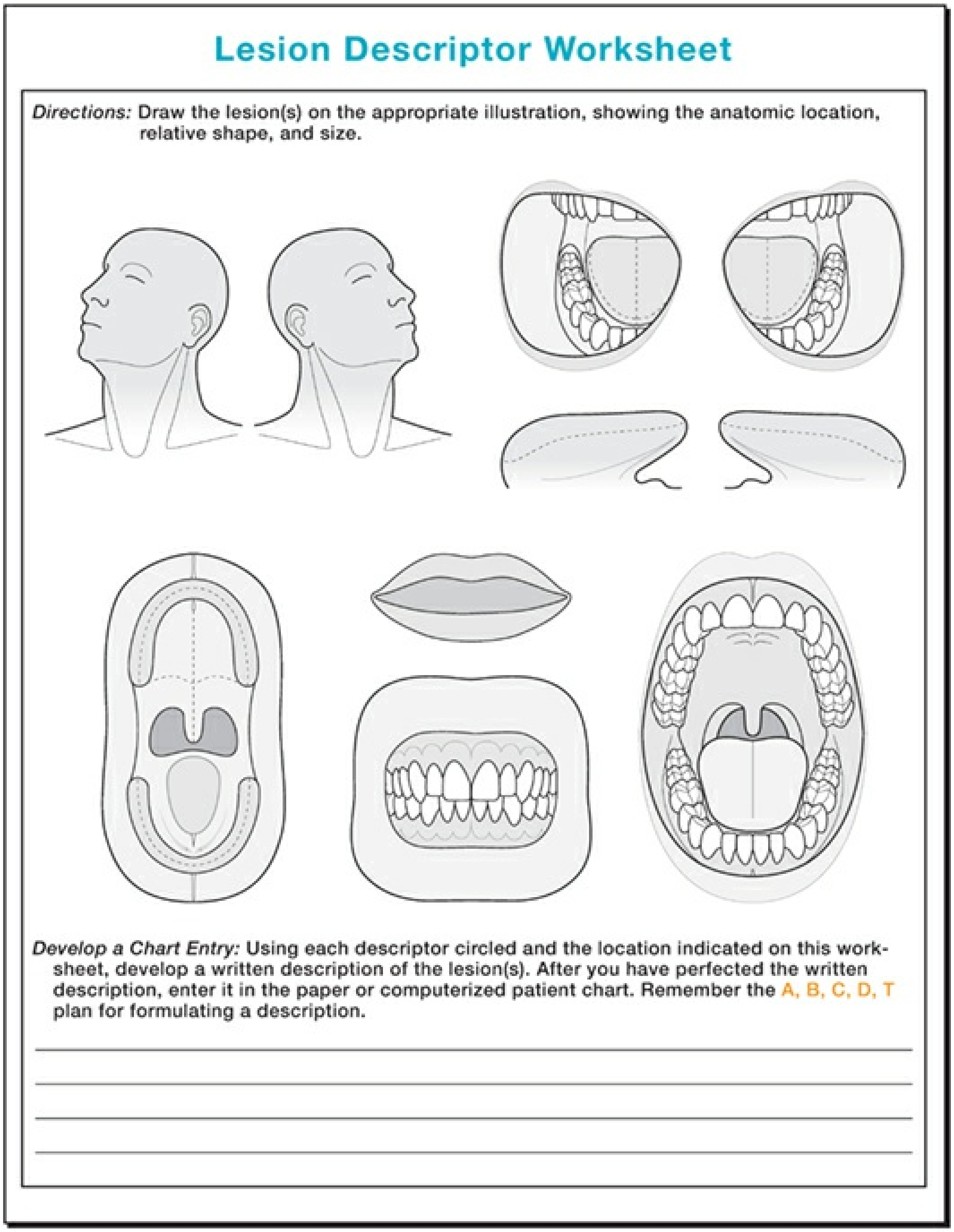


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	**Nonpalpable Flat Lesions**	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 13-53A Page 1 of Lesion Descriptor Worksheet for Mr. Ascari.



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 13-53B Page 2 of Lesion Descriptor Worksheet for Mr. Ascari.

Fictitious Patient Case B: Bethany Biddle

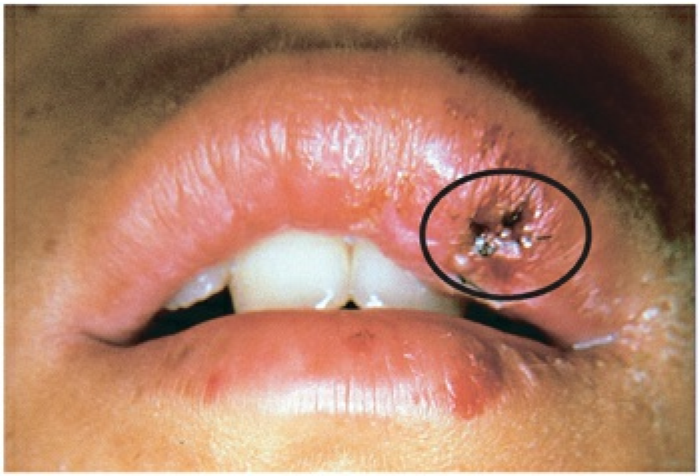
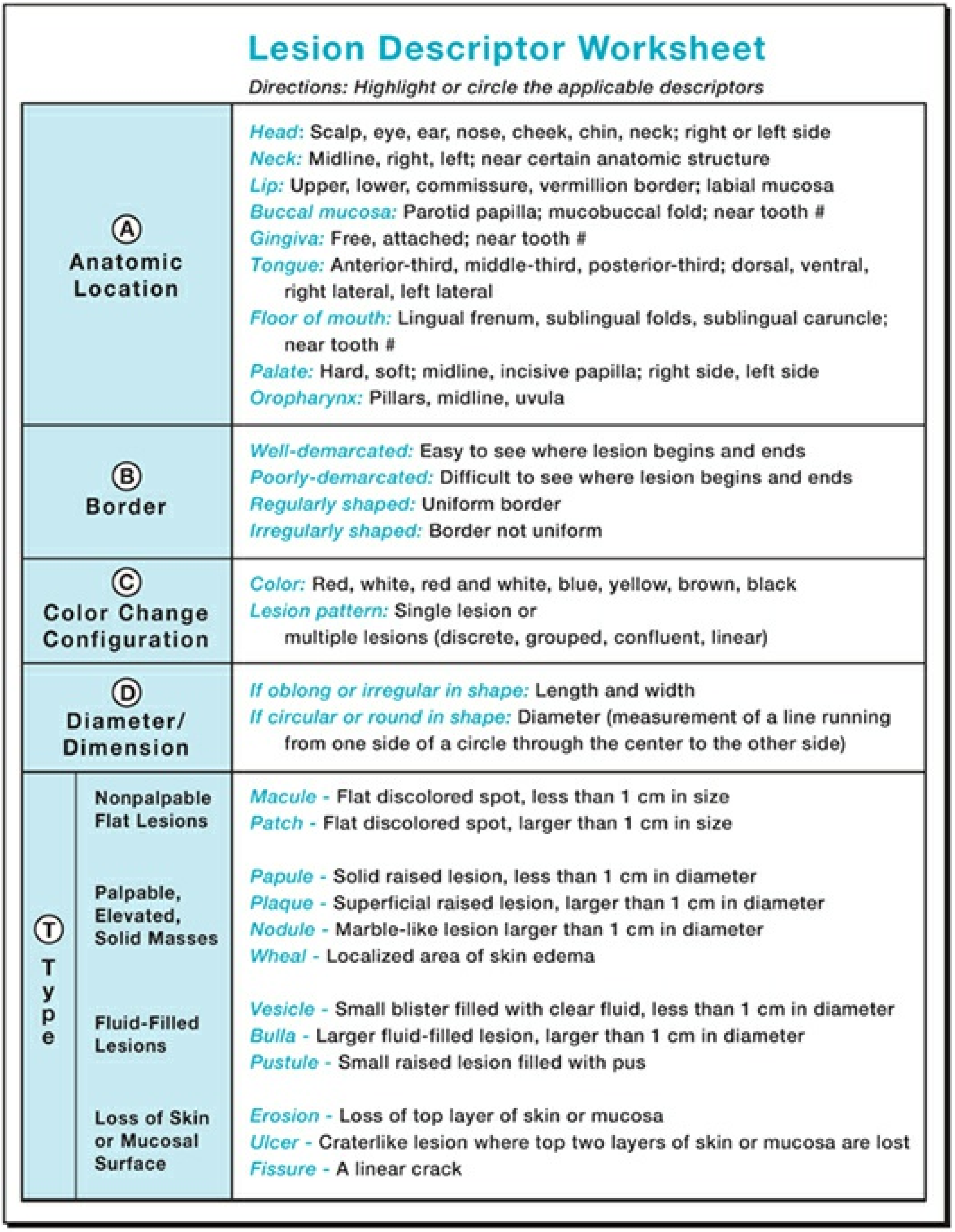


FIGURE 13-54 Bethany Biddle: finding on upper lip.

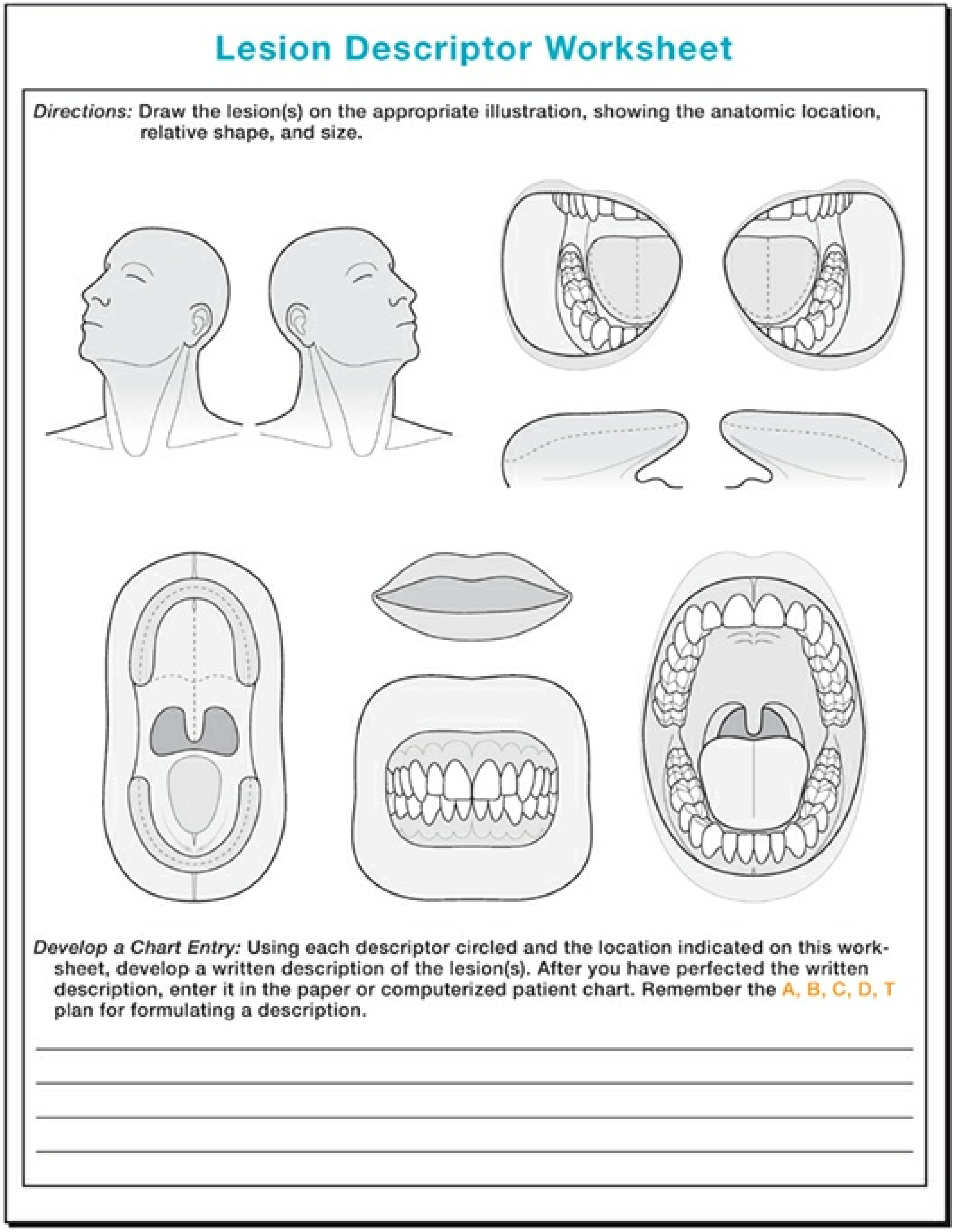


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 13-55A Page 1 of Lesion Descriptor Worksheet for Bethany Biddle.



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 13-55B **Page 2 of Lesion Descriptor Worksheet for Bethany Biddle.**

Fictitious Patient Case C: Mr. Carlos Chavez

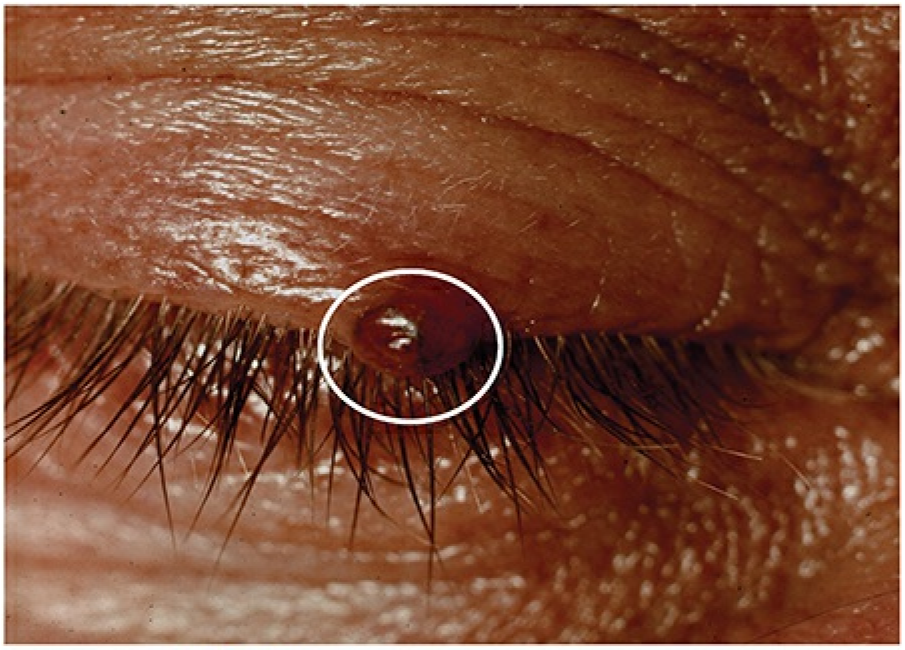
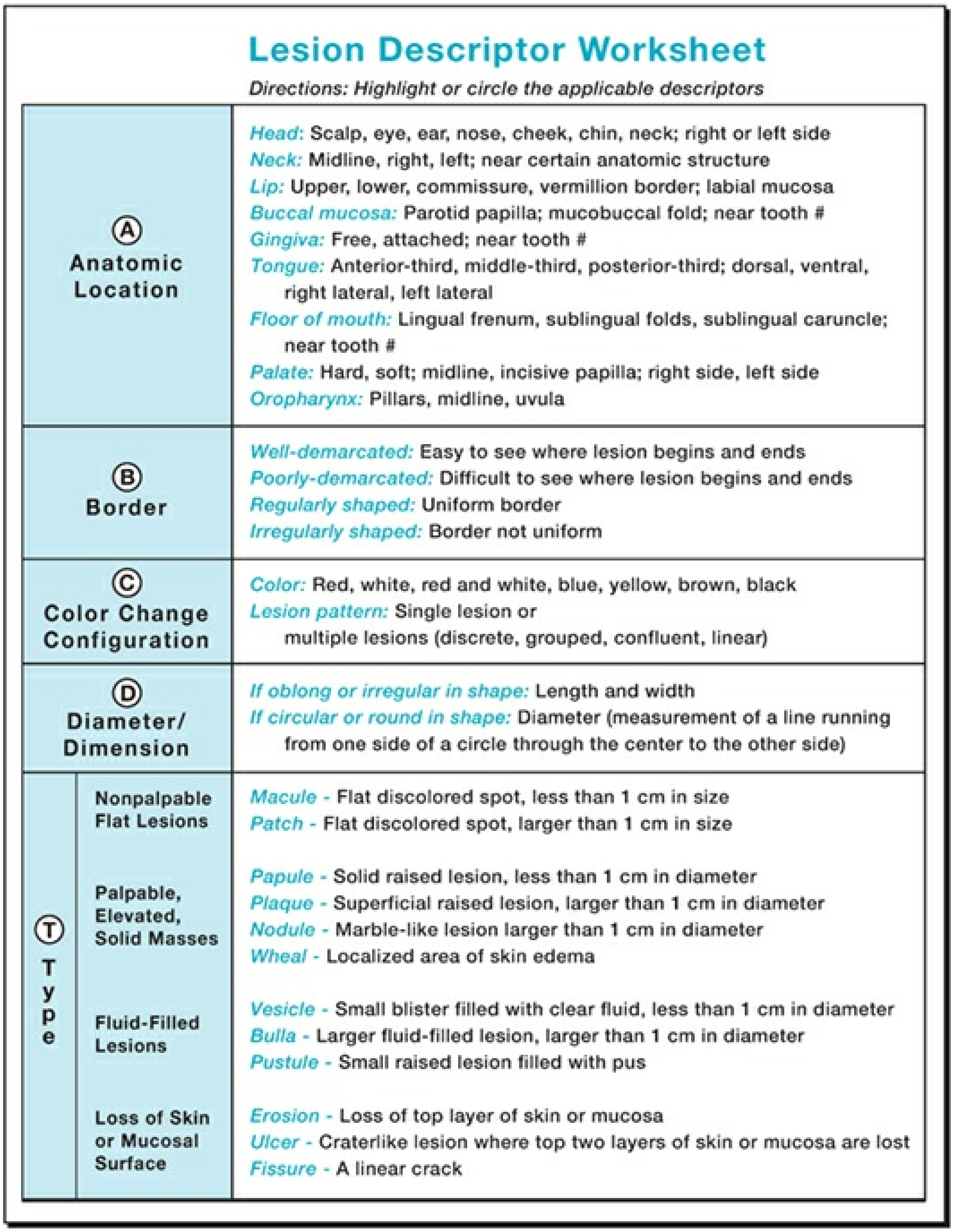


FIGURE 13-56 Mr. Chavez: finding on upper eyelid.

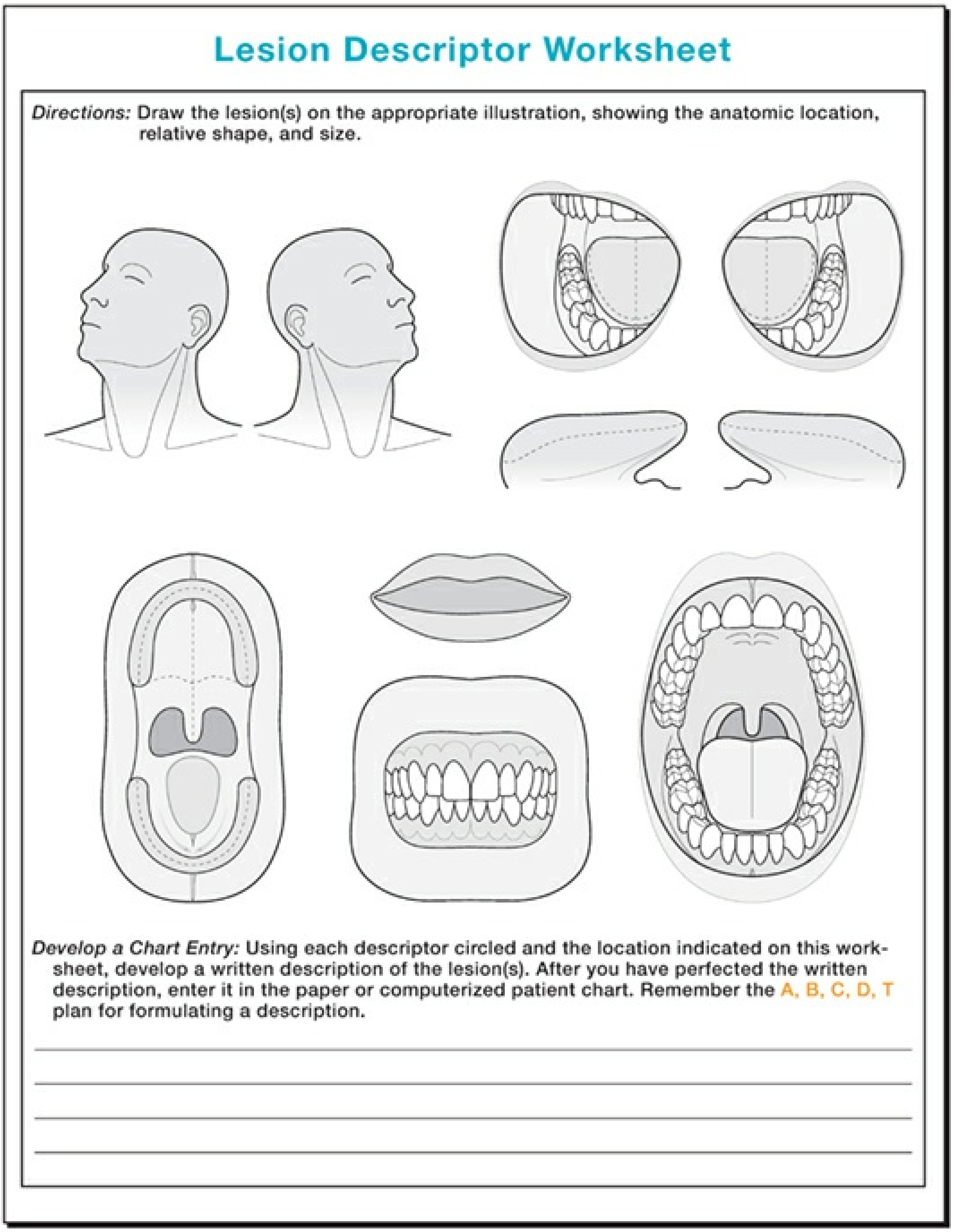


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 13-57A **Page 1 of Lesion Descriptor Worksheet for Mr. Chavez.**



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 13-57B Page 2 of Lesion Descriptor Worksheet for Mr. Chavez.

Fictitious Patient Case D: Mrs. Donna Doi

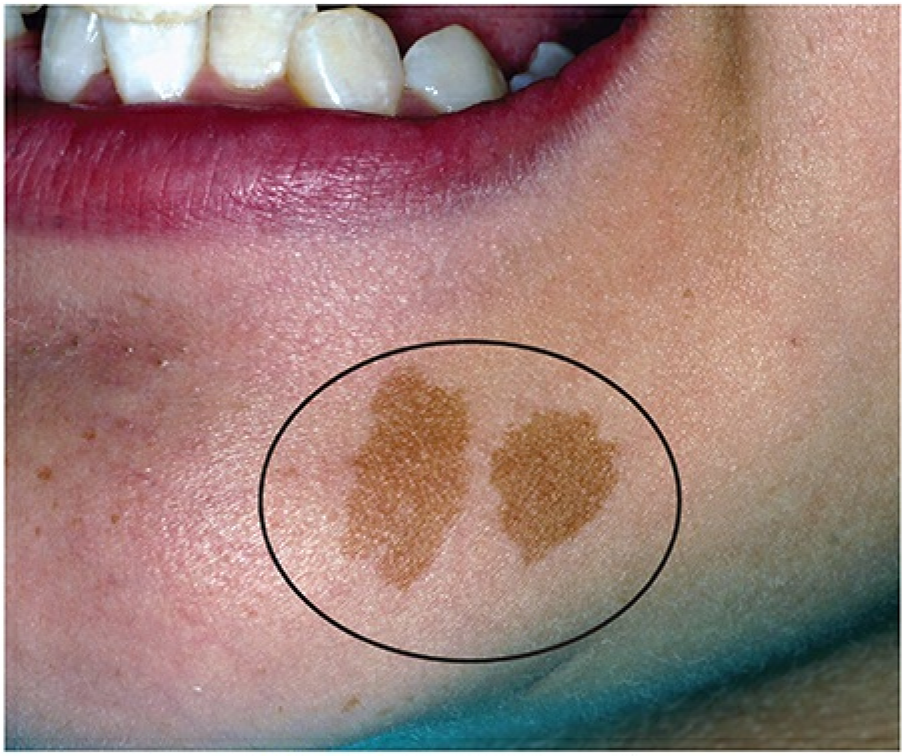
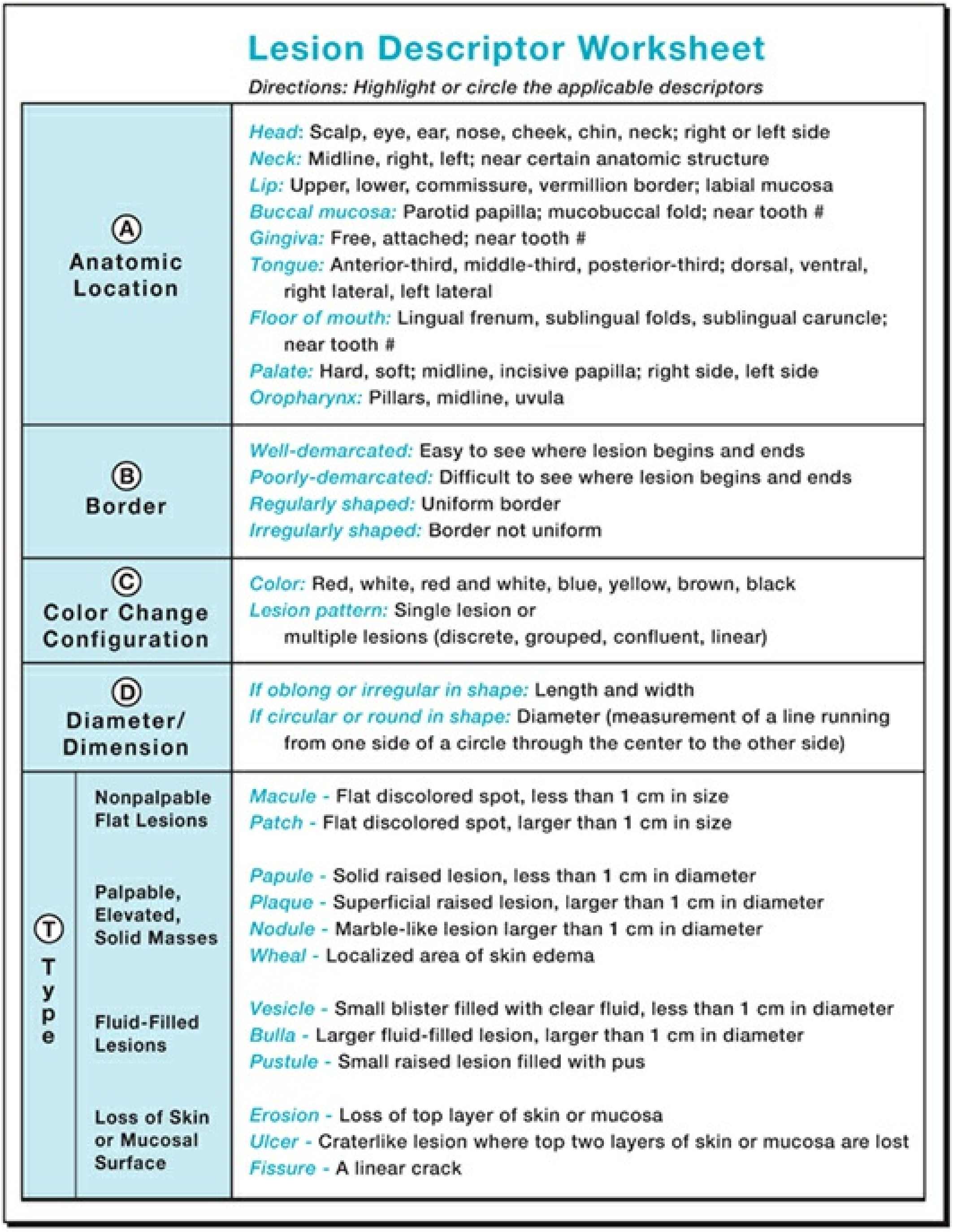


FIGURE 13-58 Mrs. Doi: findings on chin.

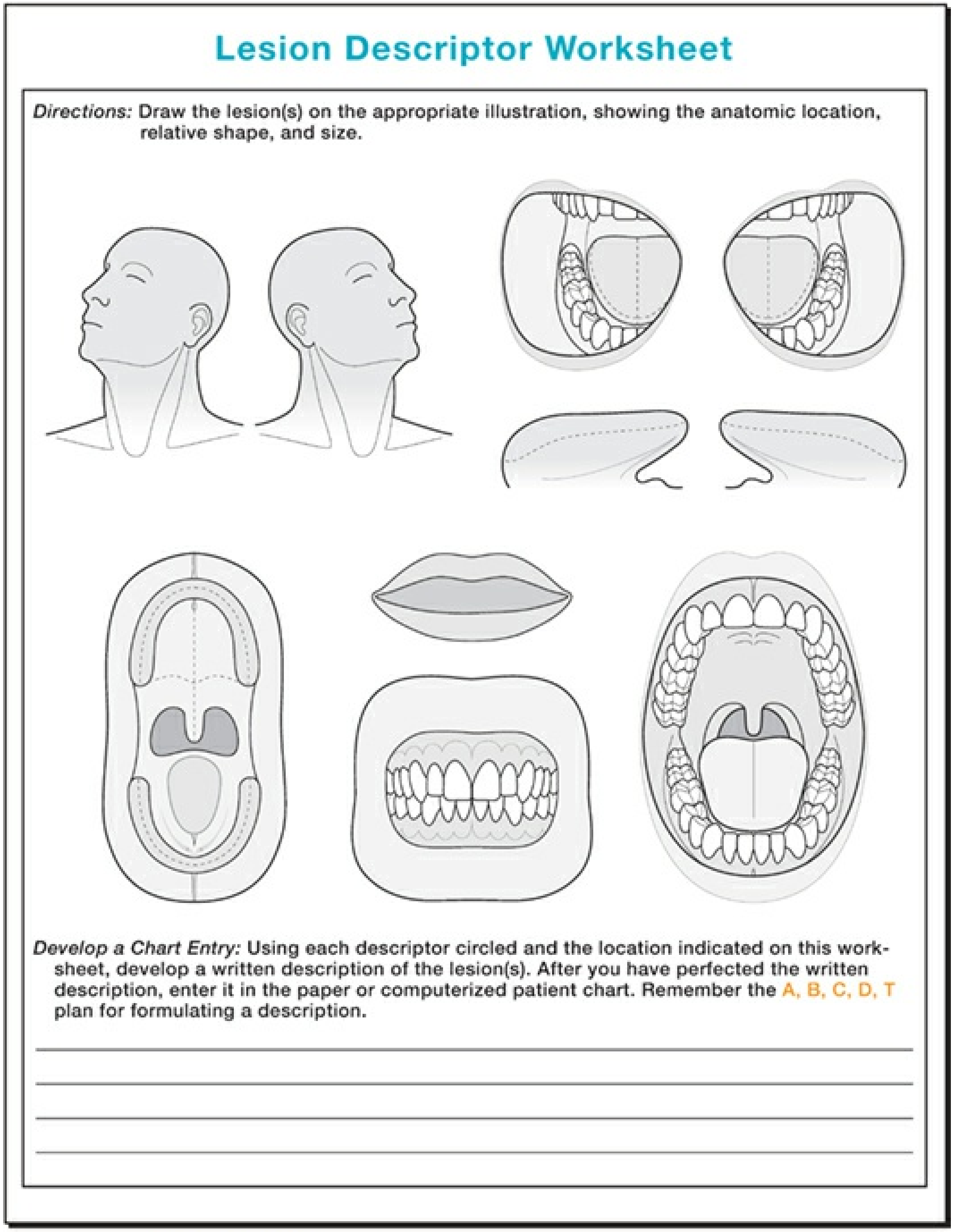


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head*: Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 13.59A **Page 1 of Lesion Descriptor Worksheet for Mrs. Doi.**



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 13-59B Page 2 of Lesion Descriptor Worksheet for Mrs. Doi.

Fictitious Patient Case E: Ms. Esther Eads

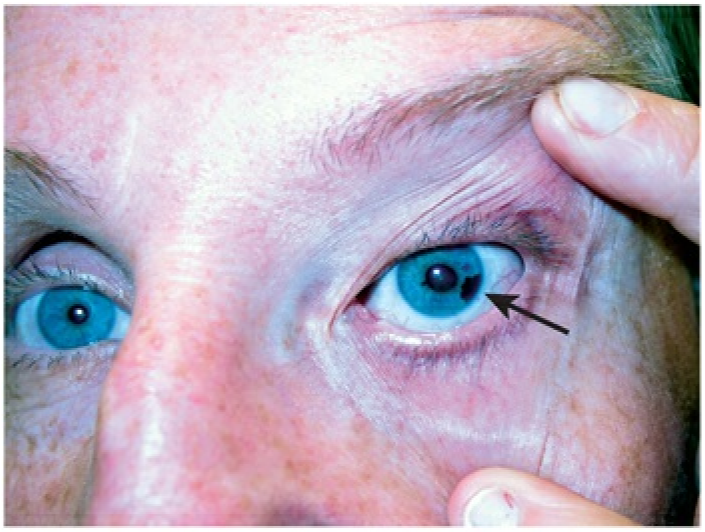
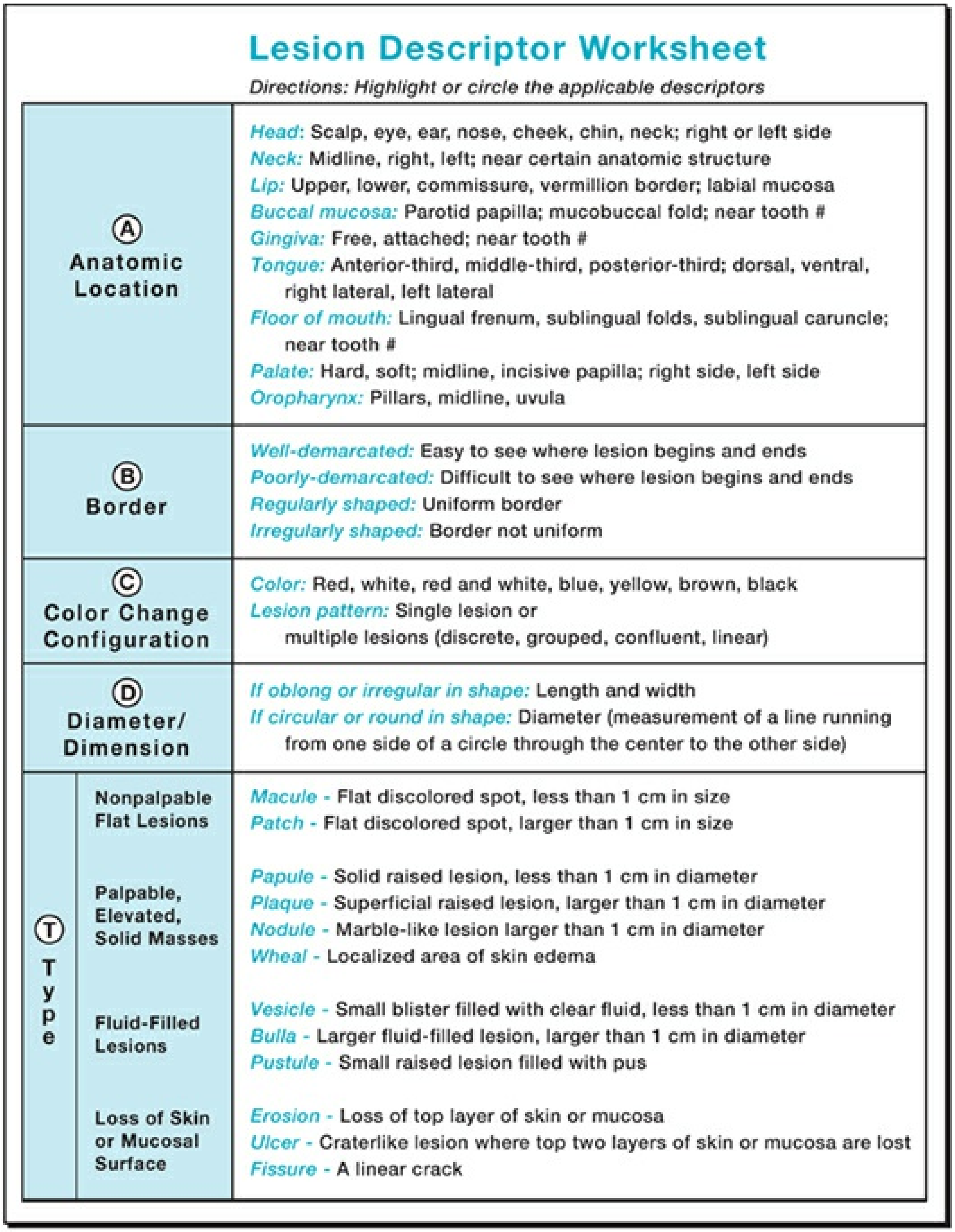


FIGURE 13-60 Ms. Eads: finding on iris of left eye.

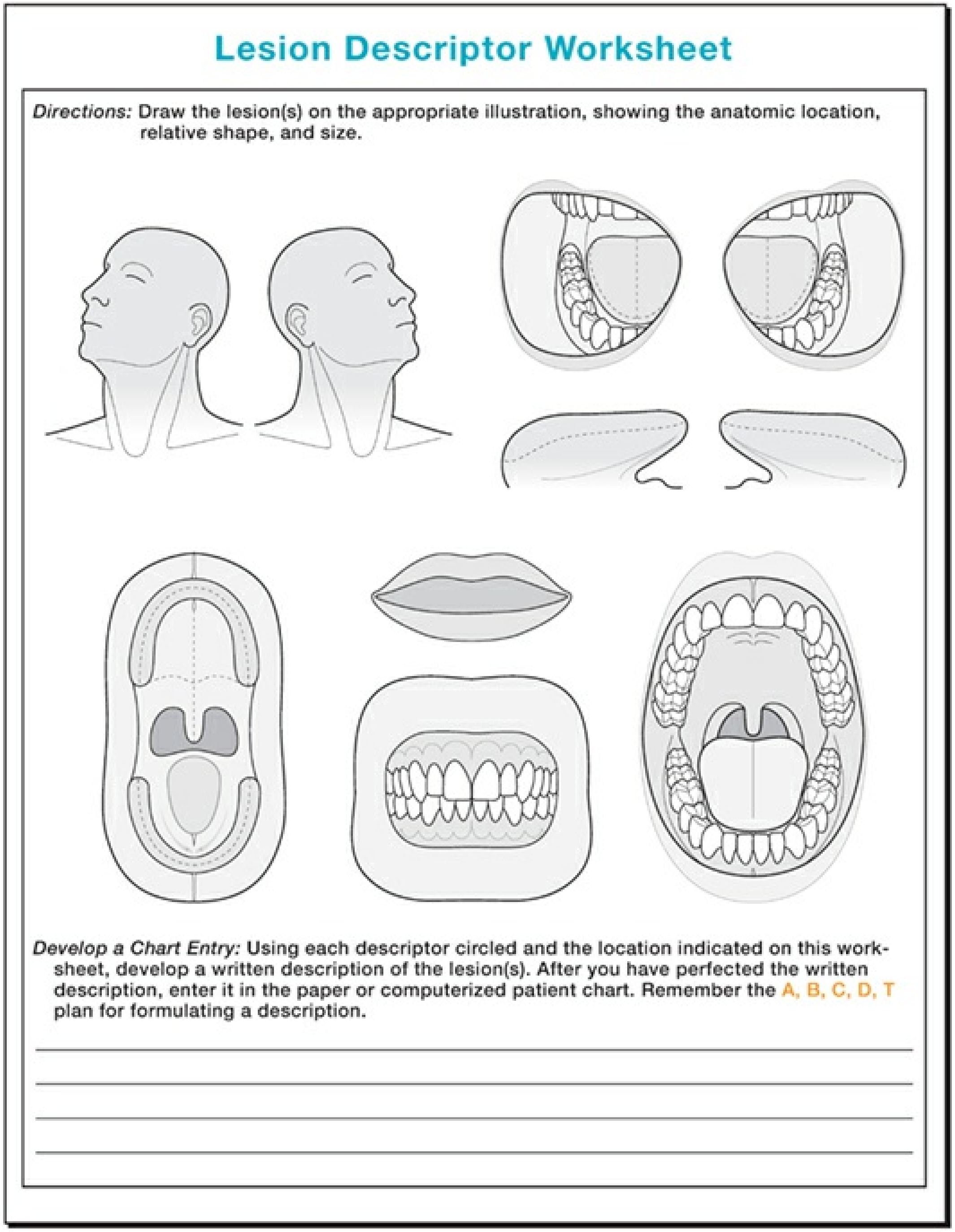


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 13-61A **Page 1 of Lesion Descriptor Worksheet for Ms. Eads.**



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 13-61B Page 2 of Lesion Descriptor Worksheet for Ms. Eads.

SECTION 6 • Skill Check

Technique Skill Checklist: Head and Neck Examination

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Subgroup 1: Overall Appraisal of the Head, Neck, Face, and Skin Unobtrusively inspects the skin and facial symmetry of the face and neck.		
Positions the patient in an upright-seated position. Asks patient to remove eyeglasses and loosen clothing that limits examination of the neck. Requests that the patient not lean the head against the headrest.		
Visually inspects the head, scalp, and ears.		
Washes and dries hands. Follows clinic protocol regarding gloves.		
Subgroup 2: Lymph Nodes of the Head and Neck Palpates the occipital nodes.		
Palpates the posterior auricular lymph nodes by applying circular compression with the fingertips.		
Palpates the preauricular lymph nodes by applying circular compression with the fingertips.		
Palpates the submental nodes using digital		

compression with the thumb and index fingers.		
Palpates the submandibular nodes by rolling the tissue over the mandible.		
Palpates the cervical nodes medial to the muscle by grasping the muscle and rotating the fingertips back and forth over the muscle. Covers the entire length of the muscle from the ear to the clavicle.		
Palpates the cervical lymph nodes posterior to the muscle by applying gentle compression under the muscle against the underlying tissues along the entire length of the muscle.		
Palpates the supraclavicular lymph nodes using circular compression.		
Subgroup 3: Salivary and Thyroid Glands Palpates the parotid glands using circular compression.		
Locates submandibular glands by finding the antegonial notch. Asks the patient to press the tip of the tongue against the roof of the mouth while compressing the glands upward against the tensed muscles.		
Locates the thyroid gland below the thyroid cartilage. Asks patient to swallow a sip of water, if necessary, to facilitate locating the gland. Keeping the hand in a stationary position, palpates the gland as the patient swallows sips of water.		
Subgroup 4: Temporomandibular Joint Locates the joints near the tragus of each ear and		

palpates as the patient slowly opens and closes the mouth.		
Palpates the TMJ as the patient makes lateral excursions to the right and then to the left.		
OPTIONAL: Assesses the range of motion by asking the patient to place the index, middle, and ring fingers between the incisal edges of the upper and lower incisors.		
Documents notable findings in the patient chart or computerized record.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U.** Total the sum of the **“S”**s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Head and Neck Examination

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of a fictitious patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructors** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as

S (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains what is to be done.		
Reports notable findings to the patient. As needed, makes referrals to a physician or dental specialist.		
Encourages patient questions before and during the head and neck examination.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the **"S"**s and divide by the total points possible to calculate a percentage grade.		

thePoint® NOTE TO COURSE INSTRUCTOR: A series of role-play scenarios for the modules in this textbook can be found at http://thepoint.lww.com/GehrigPAT4e.

References

1. Alho OP, Teppo H, Mäntyselkä P, Kantola S. Head and neck cancer in primary care: presenting symptoms and the effect of delayed diagnosis of cancer cases. *CMAJ*. 2006;174(6):779–784.
2. Anand N, Chaudhary N, Mittal MK, Prasad R. Comparison of the efficacy of clinical examination, ultrasound neck and computed tomography in detection and staging of cervical lymph node metastasis in head and neck cancers. *Indian J Otolaryngol Head Neck Surg*. 2007;59(1):19–23.
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4. Georgopoulos R, Liu JC. Examination of the patient with head and neck cancer. *Surg Oncol Clin N Am*. 2015;24(3):409–421.
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8. Hapner ER, Bauer KL, Wise JC. The impact of a community-based oral, head and neck cancer screening for reducing tobacco consumption. *Otolaryngol Head Neck Surg*. 2011;145(5):778–782.
9. Sharawy M. Knowledge of the lymphatics of the head & neck is essential to the accurate examination of lymph nodes. *J Okla Dent Assoc*. 2002;92(3):48–49.
10. Slater S. Palpation of the thyroid gland. *South Med J*. 1993;86(9):1001–1003.

MODULE

14

ORAL EXAMINATION

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module describes the oral examination. The oral examination is a physical examination technique that consists of a systematic visual inspection and/or palpation of the structures of the oral cavity and oropharynx. This examination should be a routine part of each patient's dental visit.

This module describes the oral examination including:

- An anatomy review of oral structures
- Peak procedure for a systematic oral examination

MODULE OUTLINE

SECTION 1 **Examination Overview**
Oral Cancer
Information to Improve Patient Understanding
Risk Factors, Signs, and Symptoms of Oral Cancer
Anatomy Review
    Landmarks of the Lips
    Salivary Glands
    Ventral Surface of the Tongue and Anterior Floor of

  - Mouth
  - Dorsal Surface of the Tongue
  - Palate, Tonsils, and Oropharynx

SECTION 2 **Peak Procedure**

- Procedure 14-1. Oral Examination
  - Subgroup 1: Lips and Vermillion Border
  - Subgroup 2: Oral Cavity and Mucosal Surfaces
  - Subgroup 3: Underlying Structures of the Lips and Cheeks
  - Subgroup 4: Floor of the Mouth
  - Subgroup 5: Salivary Gland Function
  - Subgroup 6: The Tongue
  - Subgroup 7: Palate, Tonsils, and Oropharynx

SECTION 3 **The Human Element**

- Through the Eyes of a Student
- Ethical Dilemmas
- English-to-Spanish Phrase List

SECTION 4 **Practical Focus—Fictitious Patient Cases**

- Fictitious Patient Case A: Mr. Alan Ascari
- Fictitious Patient Case B: Bethany Biddle
- Fictitious Patient Case C: Mr. Carlos Chavez
- Fictitious Patient Case D: Mrs. Donna Doi
- Fictitious Patient Case E: Ms. Esther Eads

SECTION 5 **Skill Check**

KEY TERMS

Oral examination • Oral cancer • Vermillion border • Commissures • Parotid glands • Submandibular glands • Sublingual glands • Sublingual caruncles • Lingual frenum • Sublingual fold • Sublingual veins • Papillae (of the tongue) • Filiform papillae • Fungiform papillae • Foliate papillae

• **Circumvallate papillae** • **Oropharynx**

OBJECTIVES

- Recognize the normal anatomy of the oral cavity.
- Locate the following oral structures: parotid ducts, sublingual fold, sublingual caruncles, papillae, anterior and posterior pillars, and the tonsils.
- Recognize and describe deviations from normal in the oral cavity.
- Position the patient correctly for the oral examination.
- Demonstrate the use of communication strategies to provide information to the patient about the oral examination and any notable findings.
- Demonstrate the oral examination using correct technique and a systematic sequence of examination.
- Document notable findings in the patient chart or computerized record.
- Identify findings that have implications in planning dental treatment.
- Provide referral to a physician or dental specialist when findings indicate the need for further evaluation.
- Demonstrate knowledge of the soft tissue findings by applying concepts from this module to the fictitious patient cases A to E found in Section 4.

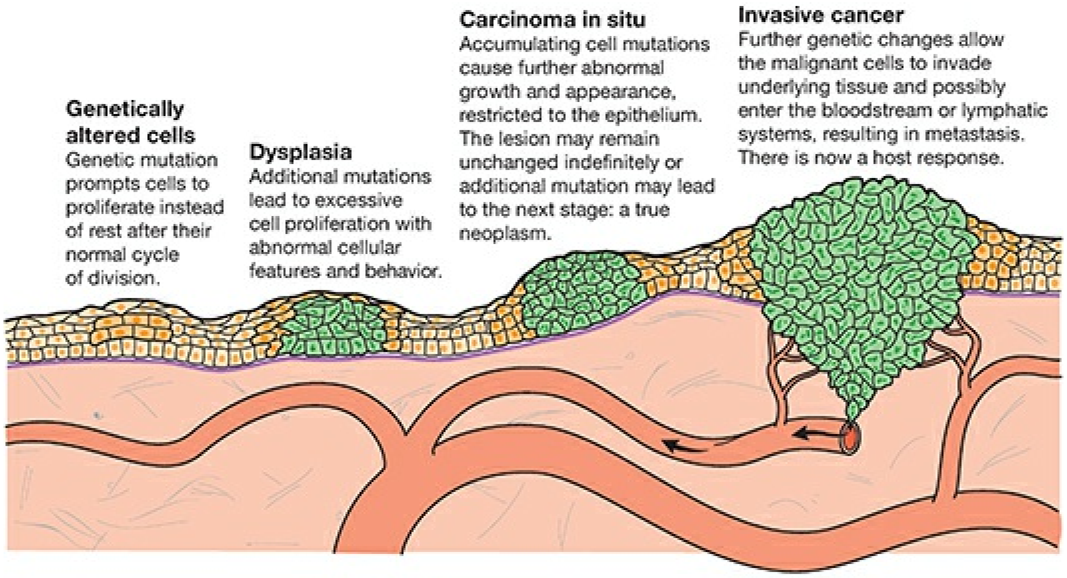
SECTION 1 • Examination Overview

A comprehensive **oral examination** is a physical examination technique consisting of a systematic inspection of the oral structures. Like the head and neck examination, this procedure takes only minutes. The oral examination allows the clinician to gather general information on the health of a patient, note early indications of some diseases, and detect abnormalities and potentially life-threatening malignancies at an early stage.[1–19]

The American Dental Association (ADA) recommends that a comprehensive oral examination should be a routine part of each patient's dental visit.[18] Teaching patients about oral cancer screenings and performing oral cancer examinations at every appointment is part of the dental hygiene process of care and policy of the American Dental Hygienists' Association.[20,21]

Oral Cancer

The British Dental Association has adopted a definition of **oral cancer** as malignancies of the lip, tongue, gingiva, all of the oral mucosa, oropharynx, and pharynx.[17] Figure 14-1 depicts the oral cancer process.



Genetically altered cells Genetic mutation prompts cells to proliferate instead of rest after their normal cycle of division.

Dysplasia Additional mutations lead to excessive cell proliferation with abnormal cellular features and behavior.

Carcinoma in situ Accumulating cell mutations cause further abnormal growth and appearance, restricted to the epithelium. The lesion may remain unchanged indefinitely or additional mutation may lead to the next stage: a true neoplasm.

Invasive cancer Further genetic changes allow the malignant cells to invade underlying tissue and possibly enter the bloodstream or lymphatic systems, resulting in metastasis. There is now a host response.

FIGURE 14-1 The process of oral cancer.

Tissue changes in the mouth that signal the beginnings of cancer often can be seen and felt easily. With early detection and timely treatment, deaths from oral cancer could be dramatically reduced.[3,5,6,8,15,22] When detected at the earliest stages, oral cancer has an 80% survival rate. At present, only one-third of oral cancers are diagnosed in the early stage. Only 13% of Americans recall having an oral examination performed in the past year.[23] Healthy People 2020 targets the goal of increasing this statistic to 20% so that more individuals receive an annual oral examination.[24]

In the United States in 2013, there were an estimated 300,682 people living with cancer of the oral cavity and pharynx.[25] Close to 48,250 Americans will be diagnosed with oral or pharyngeal cancer in 2016. It will cause over 9,575 deaths, killing roughly 1 person per hour, 24 hours per day. Of those 48,250 newly diagnosed individuals, only slightly more than half will be alive in 5 years.[25] Worldwide, the problem is much greater. The World Health Organization (WHO) estimates over 450,000 new cases being found each year. Of the oral structures, the tongue is the site with the highest incidence rate.[25]

Information to Improve Patient Understanding

Although a detailed explanation of oral cancer screening is not necessary, patients should normally be told that an oral cancer check is being carried out. There is plenty of evidence to show that patient satisfaction with clinicians is increased if patients are given this information.[26–29] All dental team members must be prepared to answer patient questions. Box 14-1 provides examples of simple language that can be used to answer patient questions.[28–30]

BOX 14-1 Answering Patient Questions

Why Haven't I Had This (Cancer Screening) Done Before?
Evidence shows that cases of oral cancer are increasing. We believe we should be taking a more active role by extending the scope of health care provided at this clinic/dental practice. Remember, I can see parts of your mouth that you cannot easily see yourself.

What Is Cancer of the Mouth?
Oral cancer is a serious growth that can occur in any part of the mouth.

How Can I Tell if I Have Mouth Cancer?
Most cancers appear as a painless ulcer that does not heal normally. Less often, a white or red patch in the mouth may develop into a cancer.

Am I at Risk for Mouth Cancer?
Anyone can be affected by mouth cancer, whether they have teeth or not. Smoking greatly increases your risk of mouth cancer. Heavy drinking is also a risk.

How Can Mouth Cancer Be Detected Early?
Mouth cancer can often be spotted early by the dentist or dental hygienist.

What Is Involved In Checking the Mouth for Cancer?
I will examine the inside of your mouth with the help of a small mirror.

Risk Factors, Signs, and Symptoms of Oral Cancer

The public domain publications of the U.S. Department of Health and Human Services, National Institutes of Health, and National Institutes of Dental and Craniofacial Research contain information about risk factors, prevention, signs, and symptoms of oral cancer. A summary of this information is found below. Box 14-2 summarizes common signs and symptoms of oral cancer.

BOX
14-2

Common Signs and Symptoms of Oral Cancer

LESIONS THAT MIGHT SIGNAL ORAL CANCER
- Leukoplakia (white lesions): possible precursor to cancer
- Erythroplakia (red lesions): less common than leukoplakia but with greater potential for becoming cancerous

SYMPTOMS THAT YOUR PATIENT MIGHT REPORT
- Soreness
- A lump or thickening
- Numbness in the tongue or other areas of the mouth
- Feeling that something is caught in the throat, hoarseness
- Difficulty chewing or swallowing
- Ear pain

- Difficulty moving the jaw or tongue
- Swelling of the jaw that causes dentures to fit poorly

MANAGEMENT OF SUSPICIOUS LESIONS

- White or red lesions should be reevaluated in 2 weeks.
- Any white or red lesion that does not resolve itself in 2 weeks should be biopsied to obtain a definitive diagnosis.
- Any symptom listed previously that persists for more than 2 weeks indicates the need for referral to an appropriate specialist for definitive diagnosis.

RISK FACTORS FOR ORAL CANCER

1. **Age**
   - The incidence of oral cancer rises steadily with age, usually because older persons have had a longer exposure to risk factors, such as exposure to sunlight.
   - Incidence peaks between ages 55 and 74 years.
2. **Gender.** Men are 2 times more likely to develop oral cancer than are women.
3. **Sunlight.** Exposure to sunlight is a risk factor for lip cancer.
4. **Tobacco and Alcohol Use**
   - Tobacco and excessive alcohol use increases the risk of oral cancer.
   - Using tobacco and alcohol in combination poses a much higher risk than using either substance alone. Those who both smoke and drink alcohol have a 15 times greater risk of developing oral cancer than others.[4,31]

Anatomy Review

LANDMARKS OF THE LIPS

Two important landmarks of the lips are the vermillion border and the commissure (Fig. 14-2). Both of these landmarks are useful when recording the location of a soft tissue lesion or other notable finding. Figures 14-3 and

14-4 illustrate some conditions that can cause an alteration in the normal appearance of the lip.

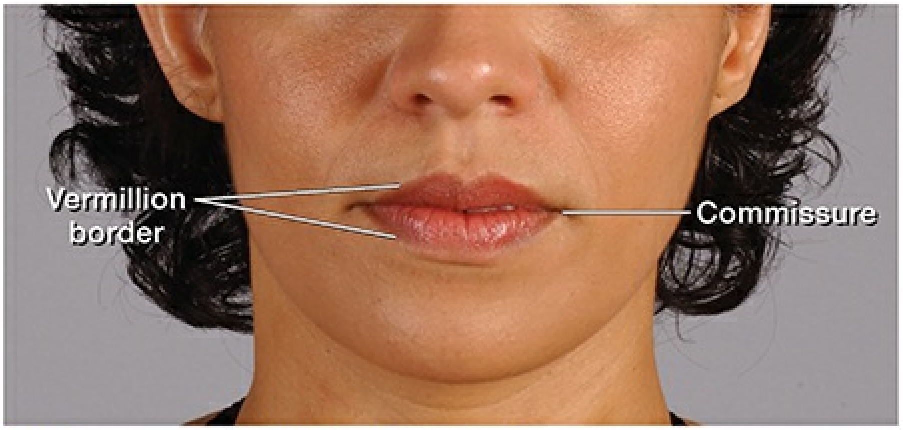


FIGURE 14-2 **The lips.** The **vermillion border** and **commissures** of the lips are useful landmarks when recording the location of a soft tissue lesion or other notable finding.

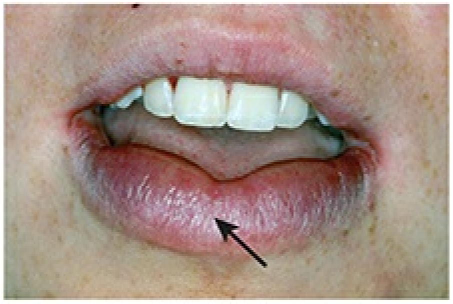


FIGURE 14-3 **Angioedema of the lower lip.** This swollen lower lip was caused by an allergic reaction to the latex gloves. Questions that screen for a history and symptoms of latex sensitivity should be included on the health history form. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

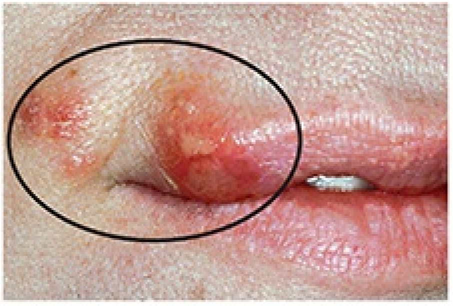


FIGURE 14-4 **Recurrent herpes simplex.** These recurrent herpes labialis vesicles contain the herpes simplex virus (HSV). Contact with the fluid can result in the spread of this viral infection to other epidermal sites. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

SALIVARY GLANDS

The major salivary glands are three pairs of glands that produce saliva (Fig. 14-5).

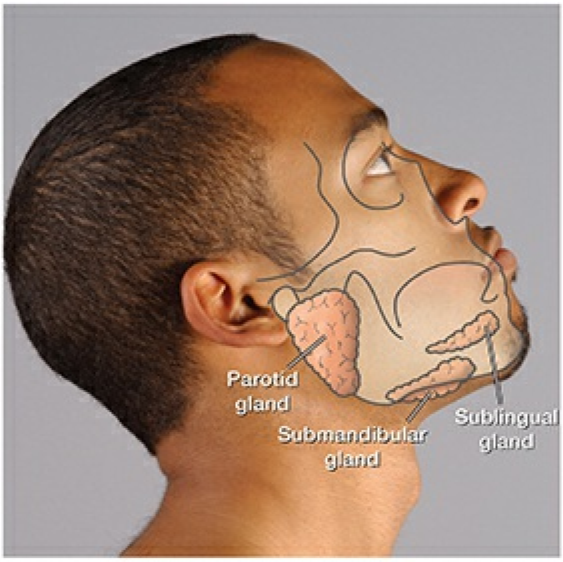


FIGURE 14-5 **The major salivary glands.**

1. The **parotid glands** are the largest of the salivary glands. Each gland is located on the surface of the masseter muscle between the ear and the jaw.
   - Each parotid gland has a duct that opens into the oral cavity opposite the maxillary first molar (Fig. 14-6).

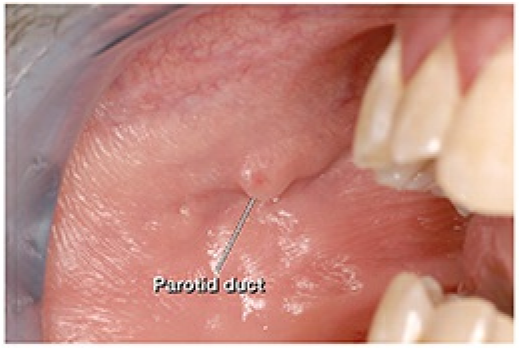


FIGURE 14-6 **Parotid duct.** The parotid duct starts at the anterior part of the gland and opens on the inside of the cheek opposite the second molar. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

2. The **submandibular glands** sit below the jaw toward the back of the mouth.
   - Each submandibular gland has a duct that extends forward in the floor of the mouth to open into the sublingual caruncles.
   - Refer to Figure 14-7 for the anatomy of the anterior floor of the mouth.

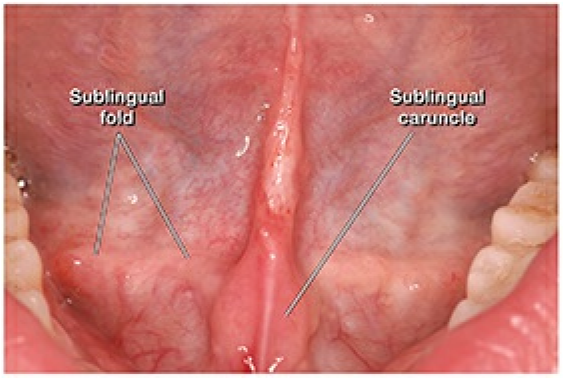


FIGURE 14-7 **Salivary ducts.** The submandibular and sublingual glands have ducts that open into the sublingual caruncles on the floor of the mouth. The sublingual gland also has several minor ducts that open along the sublingual fold. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

3. The **sublingual glands** are located in the anterior floor of the mouth next to the mandibular canines.
   - Each has one major duct that opens—along with the submandibular glands—into the sublingual caruncles.
   - In addition, the sublingual gland has several minor ducts, which open in a line along the fold of tissue beneath the tongue, known as the sublingual fold.

VENTRAL SURFACE OF THE TONGUE AND ANTERIOR FLOOR OF MOUTH

Landmarks of the ventral surface of the tongue and anterior floor of the mouth include the sublingual caruncles, the lingual frenum, the sublingual fold, and the sublingual veins. Some of these landmarks are shown in Figure 14-8.

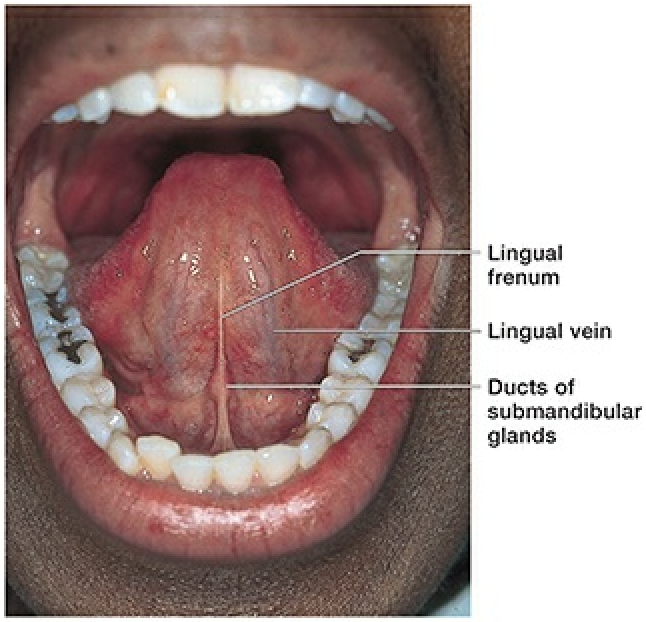


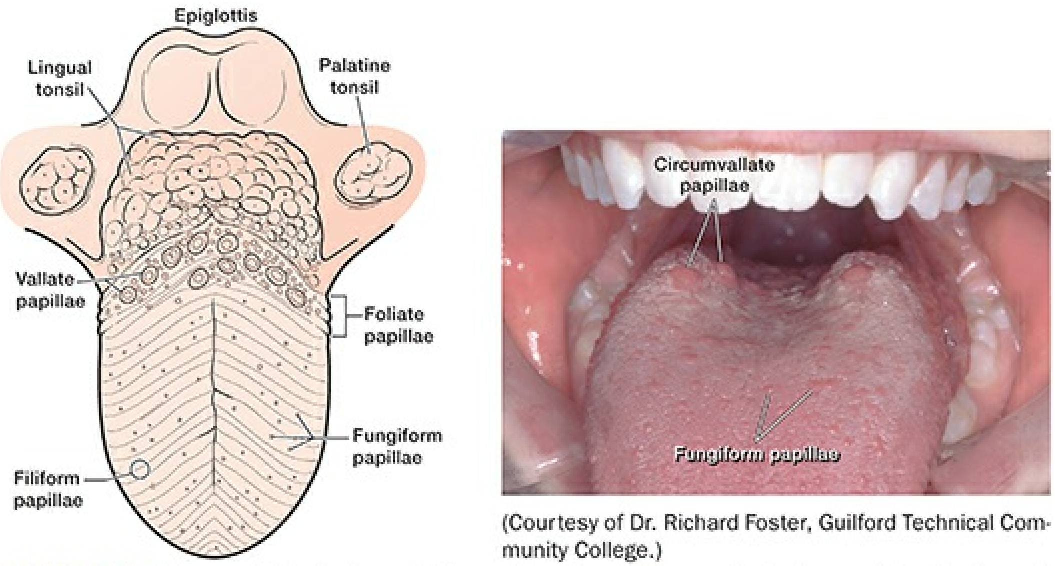
FIGURE 14-8 **Landmarks of the ventral surface of the tongue and anterior floor of the mouth.** The anterior view of the mouth and ventral surface of the tongue, showing the:

- **Sublingual caruncles**—located on either side of the **lingual frenum** (the tissue that attaches the tongue to the floor of the mouth)
- Minor ducts of the submandibular gland that open in the fold of tissue beneath the tongue, known as the **sublingual fold**
- **Sublingual veins** of the tongue

(Adapted from Bickley LS, Szilagyi P. *Bates' Guide to Physical Examination and History Taking*. 8th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.)

DORSAL SURFACE OF THE TONGUE

The dorsal surface of the tongue has a complex arrangement of papillae that serve as taste sensitive structures. Figure 14-9 illustrates this arrangement of papillae. Figures 14-11 and 14-12 show variations in the appearance (pigmentation) and anatomy (ankyloglossia) of the tongue, respectively.


Epiglottis
Lingual tonsil
Palatine tonsil
Vallate papillae
Foliate papillae
Fungiform papillae
Filiform papillae
Circumvallate papillae
Fungiform papillae

(Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

FIGURE 14-9 **Dorsum of the tongue and its papillae.** The **papillae** are the taste-sensitive structures of the tongue.

- The long, thin, gray hairlike **filiform papillae** cover the anterior two-thirds of the dorsal surface of the tongue.
- The **fungiform papillae** are broad, round, red mushroom-shaped papillae.
- The **foliate papillae** are three to five large, red, leaflike projections on the lateral border of the posterior third of the tongue (Fig. 14-10).
- The **circumvallate papillae** are 8 to 12 large papillae that form a V-shaped row.

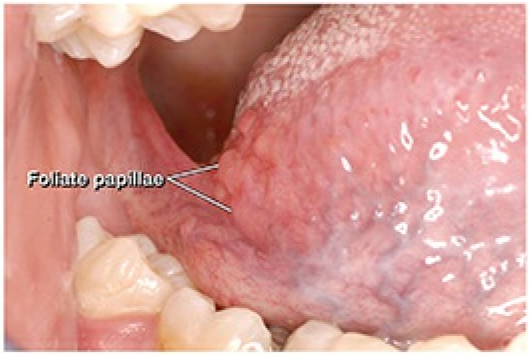

Foliate papillae

FIGURE 14-10 **Foliate papillae.** The foliate papillae are large leaflike projections on the lateral border of the posterior third of the tongue. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

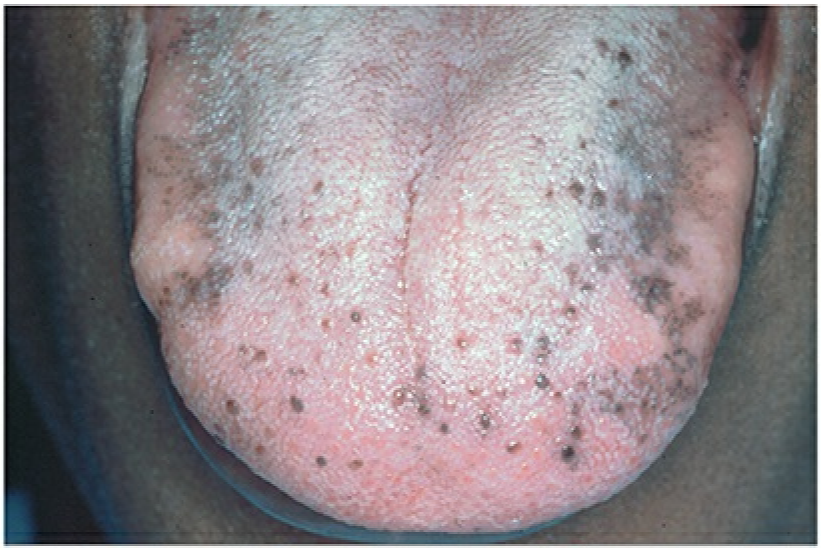


FIGURE 14-11 **Pigmented tongue.** Pigmentation of the tongue is a normal finding most commonly seen in dark-skinned individuals. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

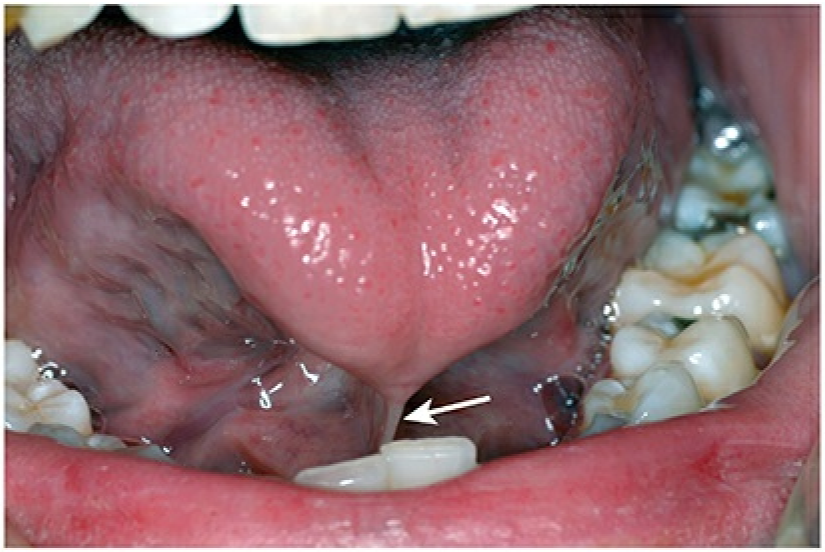


FIGURE 14-12 **Ankyloglossia.** Ankyloglossia, a short lingual frenum, limits tongue movement. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

PALATE, TONSILS, AND OROPHARYNX

Figure 14-13 illustrates the normal anatomy of the palate, tonsils, and **oropharynx** (the part of the throat at the back of the mouth, including the soft palate, the base of the tongue, and the tonsils). Figures 14-14 and 14-15 show conditions that can alter the appearance of the anatomy of the palate, tonsils, and oropharynx.

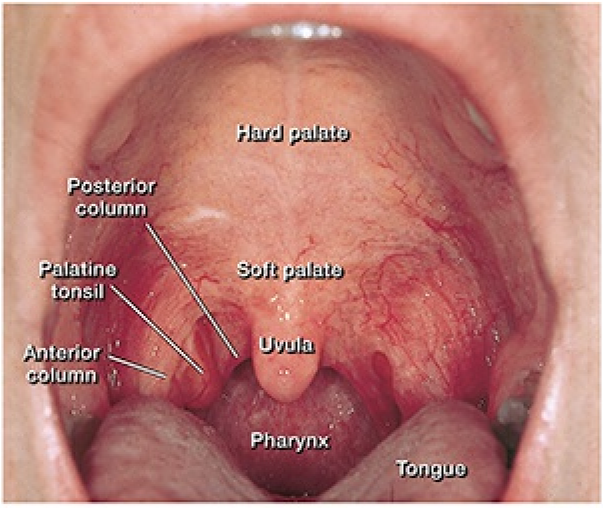


FIGURE 14-13 **Landmarks of the hard and soft palate, tonsils, and oropharynx.** (From Bickley LS, Szilagyi P. *Bates' Guide to Physical Examination and History Taking.* 8th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.)

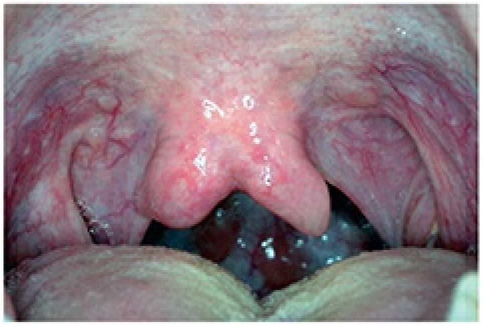


FIGURE 14-14 **Bifid uvula.** A bifid uvula is a minor cleft of the posterior soft palate. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

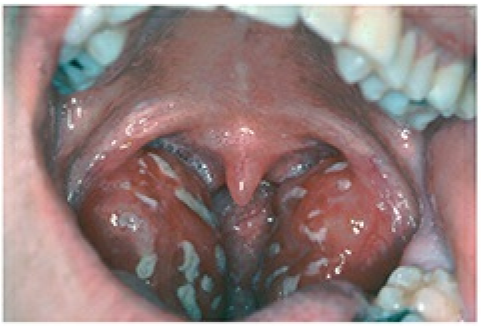


FIGURE 14-15 **Tonsillitis.** Tonsillitis is an infection or inflammation of the tonsils characterized by severe sore throat, fever, headache, enlarged tender lymph nodes in the neck, and enlarged red tonsils. (Courtesy of Dr. Richard Foster, Guilford Technical Community College.)

SECTION 2 • Peak Procedure

Evidence-based clinical recommendations developed by a panel convened by the ADA Council on Scientific Affairs advocate the comprehensive oral examination as the “gold standard” for early oral cancer detection.[7]

The oral examination involves the inspection and/or palpation of the structures of the oral cavity and oropharynx. To assist the examiner, it is helpful to organize the structures to be examined into seven subgroups:

- Subgroup 1: Lips and Vermillion Border
- Subgroup 2: Oral Cavity and Mucosal Surfaces
- Subgroup 3: Underlying Structures of the Lips and Cheeks
- Subgroup 4: Floor of the Mouth
- Subgroup 5: Salivary Gland Function
- Subgroup 6: The Tongue
- Subgroup 7: Palate, Tonsils, and Oropharynx

Peak Procedure 14–1. Oral Examination

SUBGROUP 1: LIPS AND VERMILLION BORDER

Table 14-1 presents an overview of normal and notable findings for the lips and vermillion border.

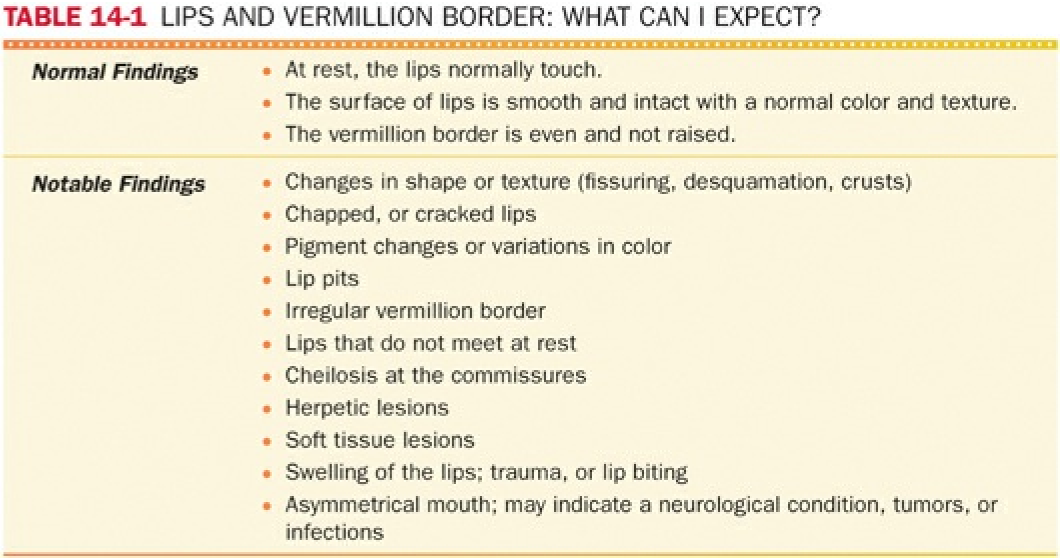


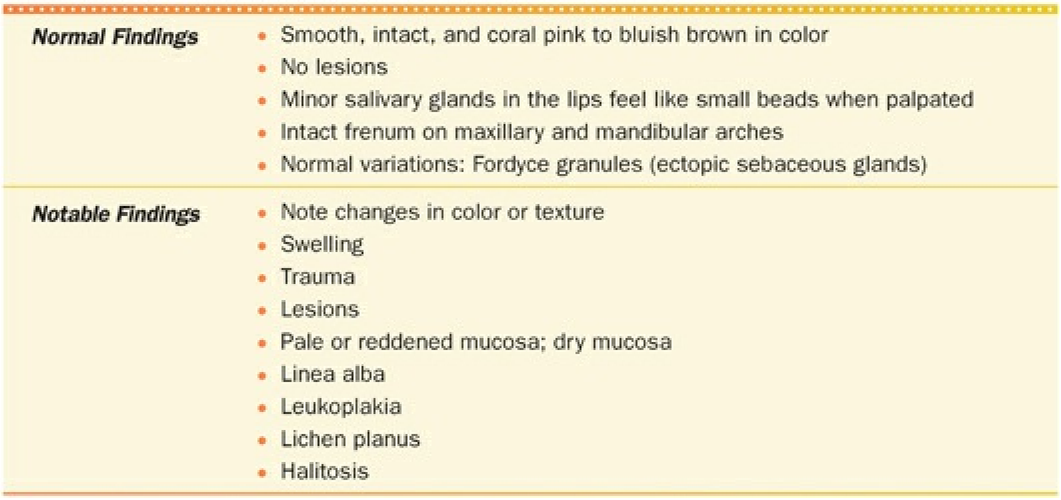
TABLE 14-1 LIPS AND VERMILLION BORDER: WHAT CAN I EXPECT?

Normal Findings	• At rest, the lips normally touch. • The surface of lips is smooth and intact with a normal color and texture. • The vermillion border is even and not raised.
Notable Findings	• Changes in shape or texture (fissuring, desquamation, crusts) • Chapped, or cracked lips • Pigment changes or variations in color • Lip pits • Irregular vermillion border • Lips that do not meet at rest • Cheilosis at the commissures • Herpetic lesions • Soft tissue lesions • Swelling of the lips; trauma, or lip biting • Asymmetrical mouth; may indicate a neurological condition, tumors, or infections

SUBGROUP 2: ORAL CAVITY AND MUCOSAL SURFACES

Table 14-2 presents an overview of normal and notable findings for the mucosal surfaces.

TABLE 14-2 MUCOSAL SURFACES: WHAT CAN I EXPECT?

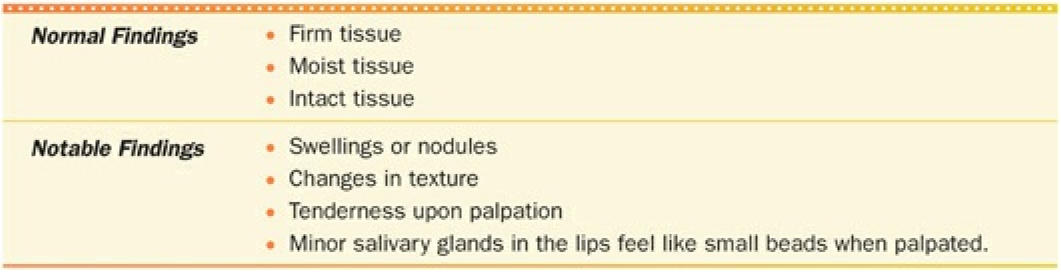


Normal Findings	• Smooth, intact, and coral pink to bluish brown in color • No lesions • Minor salivary glands in the lips feel like small beads when palpated • Intact frenum on maxillary and mandibular arches • Normal variations: Fordyce granules (ectopic sebaceous glands)
Notable Findings	• Note changes in color or texture • Swelling • Trauma • Lesions • Pale or reddened mucosa; dry mucosa • Linea alba • Leukoplakia • Lichen planus • Halitosis

SUBGROUP 3: UNDERLYING STRUCTURES OF THE LIPS AND CHEEKS

Table 14-3 presents an overview of normal and notable findings for the underlying structures of the lips and cheeks.

TABLE 14-3 UNDERLYING STRUCTURES OF THE LIPS AND CHEEKS: WHAT CAN I EXPECT?



Normal Findings	• Firm tissue • Moist tissue • Intact tissue
Notable Findings	• Swellings or nodules • Changes in texture • Tenderness upon palpation • Minor salivary glands in the lips feel like small beads when palpated.

SUBGROUP 4: FLOOR OF THE MOUTH

Table 14-4 presents an overview of normal and notable findings for the floor of the mouth.

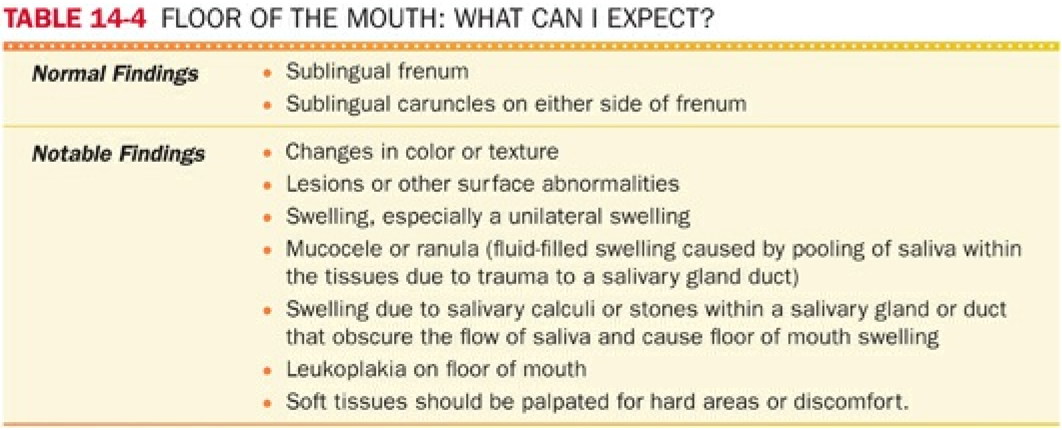


TABLE 14-4 FLOOR OF THE MOUTH: WHAT CAN I EXPECT?

Normal Findings	• Sublingual frenum • Sublingual caruncles on either side of frenum
Notable Findings	• Changes in color or texture • Lesions or other surface abnormalities • Swelling, especially a unilateral swelling • Mucocele or ranula (fluid-filled swelling caused by pooling of saliva within the tissues due to trauma to a salivary gland duct) • Swelling due to salivary calculi or stones within a salivary gland or duct that obscure the flow of saliva and cause floor of mouth swelling • Leukoplakia on floor of mouth • Soft tissues should be palpated for hard areas or discomfort.

SUBGROUP 5: SALIVARY GLAND FUNCTION

Table 14-5 presents an overview of normal and notable findings for the salivary glands.

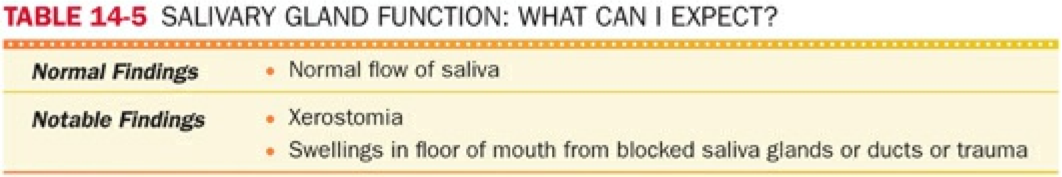


TABLE 14-5 SALIVARY GLAND FUNCTION: WHAT CAN I EXPECT?

Normal Findings	• Normal flow of saliva
Notable Findings	• Xerostomia • Swellings in floor of mouth from blocked saliva glands or ducts or trauma

SUBGROUP 6: THE TONGUE

Table 14-6 presents an overview of normal and notable findings for the tongue.

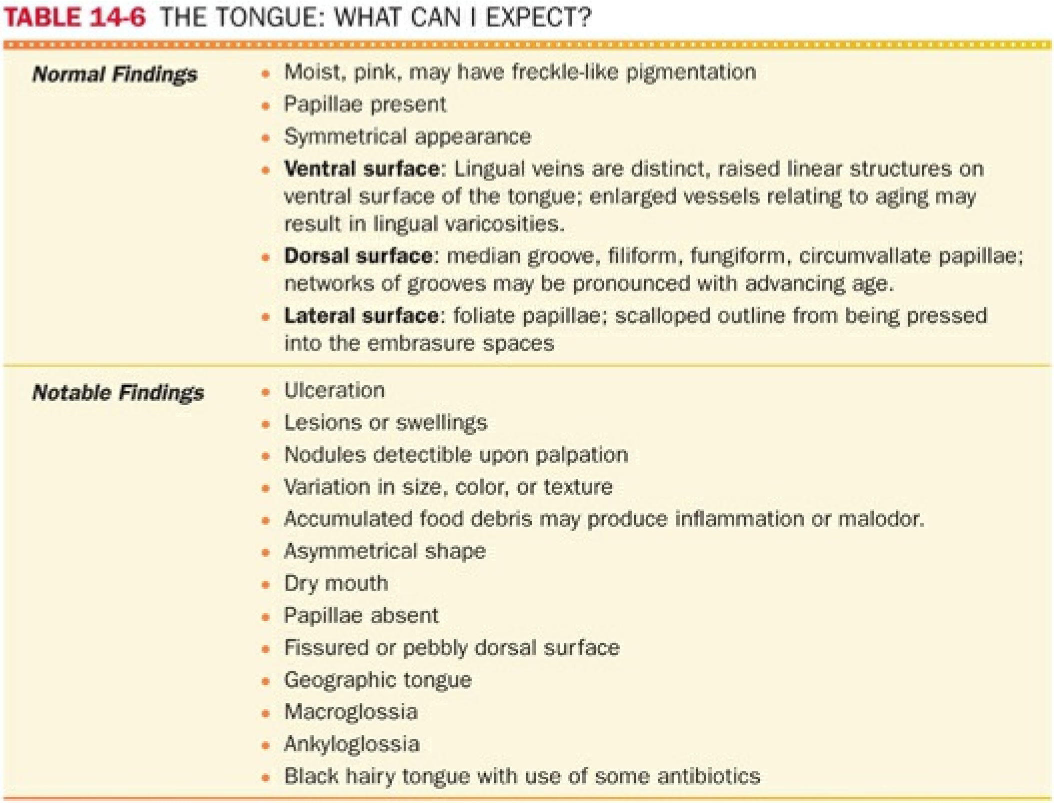


TABLE 14-6 THE TONGUE: WHAT CAN I EXPECT?

Normal Findings	• Moist, pink, may have freckle-like pigmentation • Papillae present • Symmetrical appearance • **Ventral surface**: Lingual veins are distinct, raised linear structures on ventral surface of the tongue; enlarged vessels relating to aging may result in lingual varicosities. • **Dorsal surface**: median groove, filiform, fungiform, circumvallate papillae; networks of grooves may be pronounced with advancing age. • **Lateral surface**: foliate papillae; scalloped outline from being pressed into the embrasure spaces
Notable Findings	• Ulceration • Lesions or swellings • Nodules detectible upon palpation • Variation in size, color, or texture • Accumulated food debris may produce inflammation or malodor. • Asymmetrical shape • Dry mouth • Papillae absent • Fissured or pebbly dorsal surface • Geographic tongue • Macroglossia • Ankyloglossia • Black hairy tongue with use of some antibiotics

SUBGROUP 7: PALATE, TONSILS, AND OROPHARYNX

Table 14-7 presents an overview of normal and notable findings for the palate, tonsils, and oropharynx.

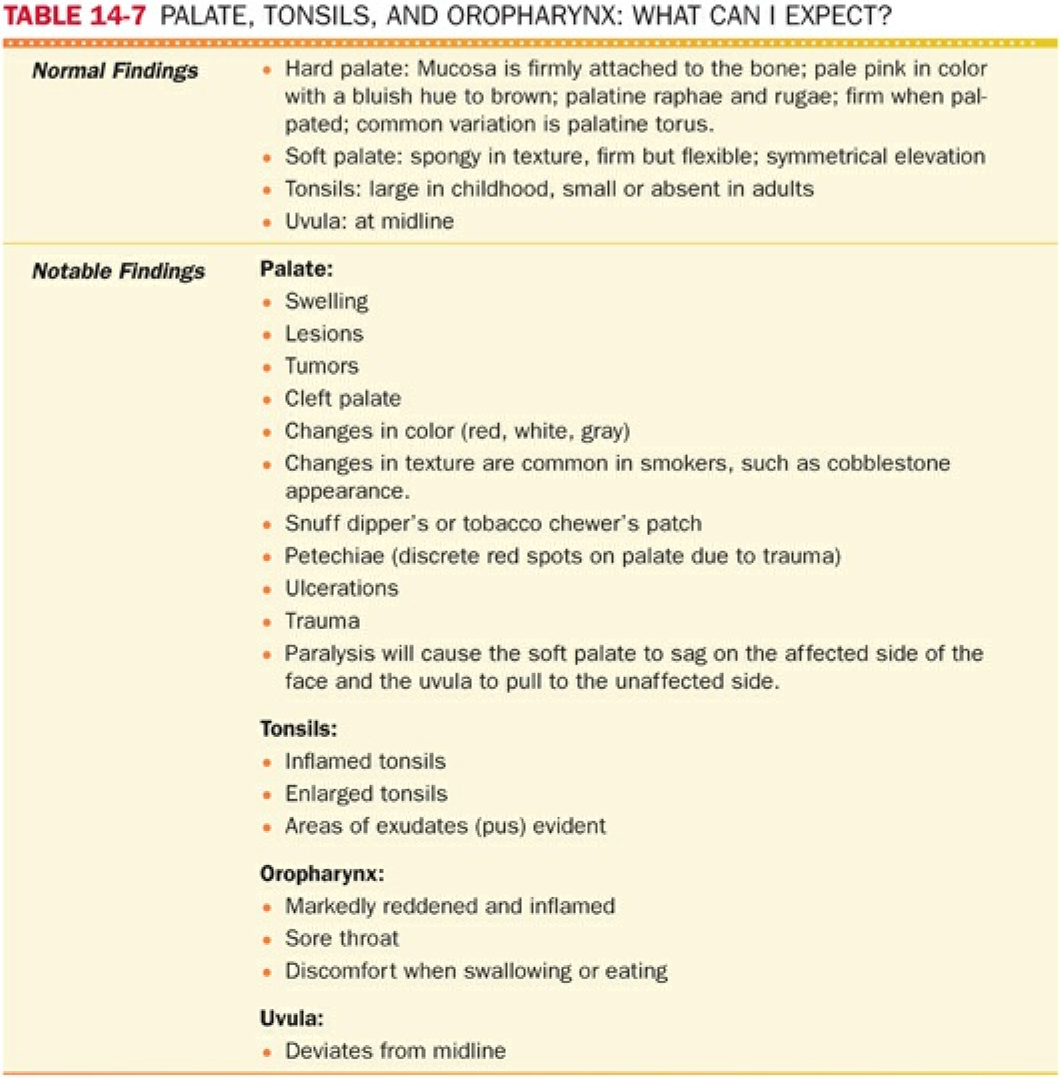


TABLE 14-7 PALATE, TONSILS, AND OROPHARYNX: WHAT CAN I EXPECT?

Normal Findings	• Hard palate: Mucosa is firmly attached to the bone; pale pink in color with a bluish hue to brown; palatine raphae and rugae; firm when palpated; common variation is palatine torus. • Soft palate: spongy in texture, firm but flexible; symmetrical elevation • Tonsils: large in childhood, small or absent in adults • Uvula: at midline
Notable Findings	**Palate:** • Swelling • Lesions • Tumors • Cleft palate • Changes in color (red, white, gray) • Changes in texture are common in smokers, such as cobblestone appearance. • Snuff dipper's or tobacco chewer's patch • Petechiae (discrete red spots on palate due to trauma) • Ulcerations • Trauma • Paralysis will cause the soft palate to sag on the affected side of the face and the uvula to pull to the unaffected side. **Tonsils:** • Inflamed tonsils • Enlarged tonsils • Areas of exudates (pus) evident **Oropharynx:** • Markedly reddened and inflamed • Sore throat • Discomfort when swallowing or eating **Uvula:** • Deviates from midline

Procedure 14-1. Oral Examination

EQUIPMENT

Gloves and protective gear for the clinician

Safety glasses for the patient

2 in × 2 in gauze squares, cotton-tipped applicators, and a dental mirror

SUBGROUP 1: VISUAL INSPECTION OF LIPS AND VERMILLION BORDER

1. **Preparation for the examination.**

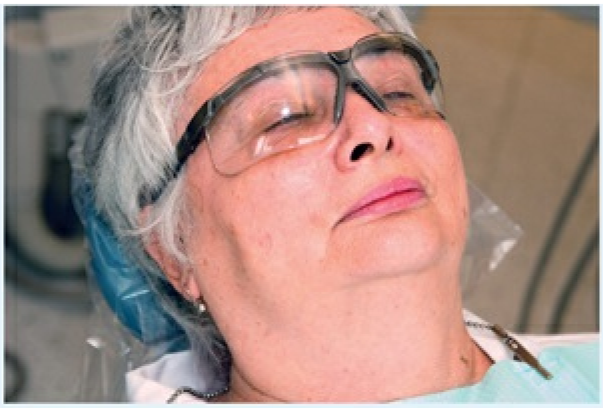


FIGURE 14-16

- After briefly explaining the procedure to the patient, ask him or her to remove partial or complete dentures, if applicable. Give female patients a tissue to remove lipstick.
- Provide the patient with safety glasses.
- Wash your hands and don gloves.
- ***Place the patient in a supine position.***
- ***Position yourself in a seated position.***

2. **Lips and vermillion border—visual inspection.**

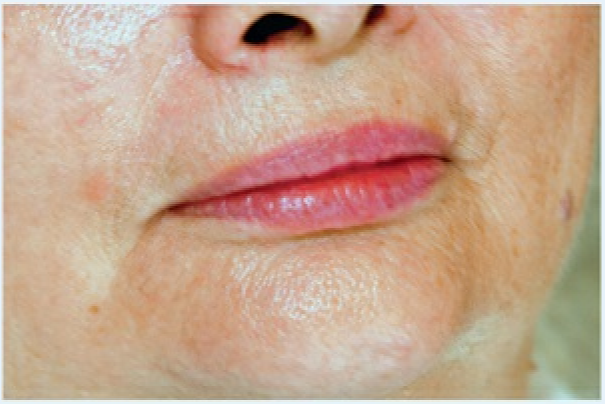


FIGURE 14-17

- Visually inspect the lips and vermillion border.

SUBGROUP 2: INSPECTION OF THE ORAL CAVITY AND MUCOSAL SURFACES

1. **Oral cavity—preliminary visual inspection.**

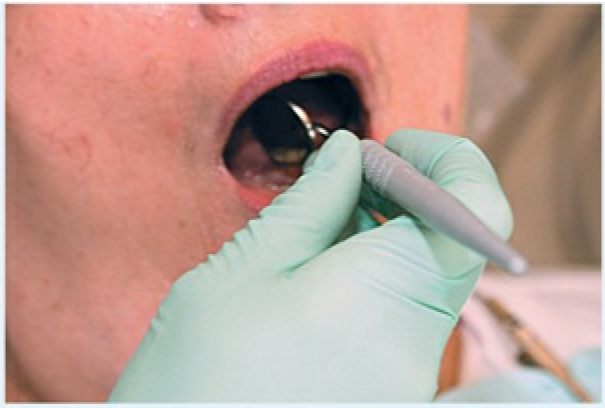


FIGURE 14-18

- Visually inspect the entire oral cavity and oropharynx.
- Adjust the dental unit light so that the oral cavity is well illuminated.
- Use a dental mirror to look for any conditions that would cause the examination procedure to be modified or postponed. Examples include herpetic lesions or a red, inflamed throat.

2. **Labial mucosa of the lower lip—visual inspection.**

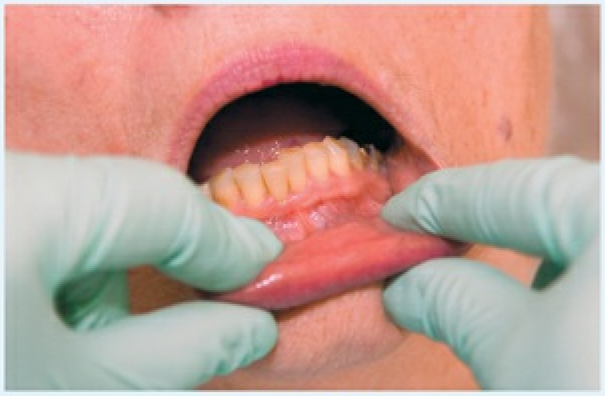


FIGURE 14-19

- Visually inspect the labial mucosa of the lower lip. Place the ***index fingers of both hands on the inside with your thumbs on the outside of the lower lip***.
- **Tip:** ***Keep your index finger(s) inside the mouth and the thumb(s) outside the mouth while completing all the steps for examining the mucosal surfaces. This technique keeps your wet fingers inside the mouth while your dry fingers***

come in contact with the patient’s face. Your patient will appreciate this courtesy.

- Evert and retract the lip fully away from the teeth and alveolar ridge. Retract the lip completely so that you have a clear view of the entire labial mucosal surface and vestibule of the lower lip.

3. **Labial mucosa of the upper lip—visual inspection.**

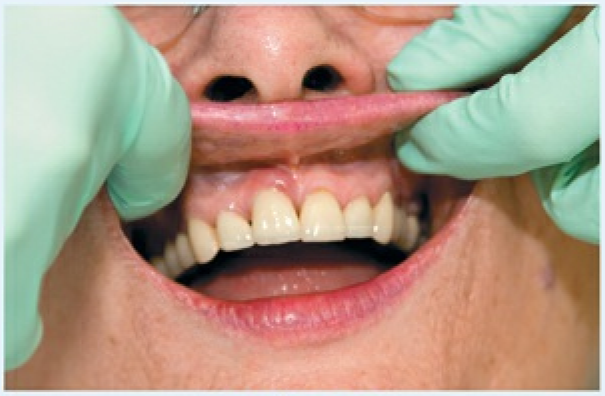


FIGURE 14-20

- Examine the labial mucosa of the upper lip in a similar manner. Slide both **index fingers** upward to position them between the maxillary arch and the labial mucosa of the upper lip.
- Use your **thumbs** to evert and retract the upper lip.
- Stretch the tissue away from the dental arches. Visually examine the entire mucosal surface adjacent to the maxillary teeth as well as the tissue between the dental arches.

4. **Buccal mucosa—visual inspection.**

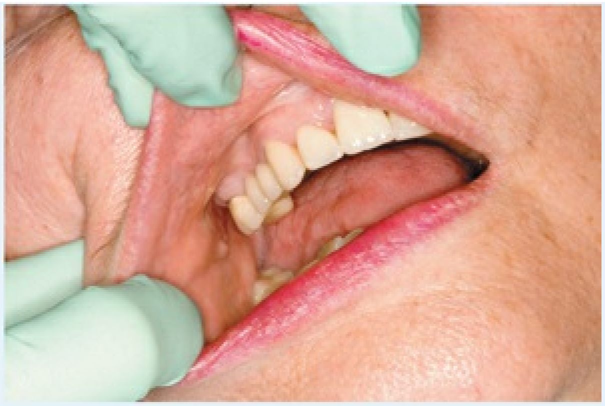


FIGURE 14-21

- Begin with the buccal mucosa on the right side of the mouth, near the ***maxillary arch***.
- Place the ***index fingers of both hands on the inside*** with the ***thumbs on the outside*** of the cheek. One hand and a mirror can also be used, taking care not to press the mirror rim against the soft tissue.
- Evert the cheek and stretch the tissue of the right cheek up and away from the maxillary teeth. Extend the tissue completely away from the teeth so that no folds remain to conceal a lesion or abnormality. ***Proceed to Step 5 to examine the buccal mucosa adjacent to the mandibular arch on the right side of the mouth.***

5. **Buccal mucosa—visual inspection.**

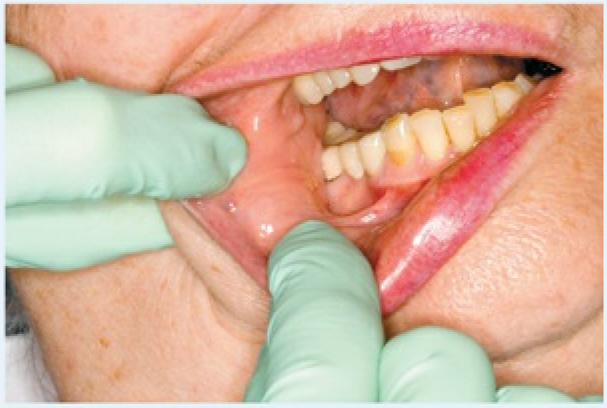


FIGURE 14-22

- Next, inspect the buccal mucosa on the right side of the mouth, near the ***mandibular arch***.

- Stretch the cheek down and away from the mandibular arch on the right side of the mouth.
- Extend the tissue completely away from the teeth so that no folds remain to conceal a lesion or abnormality.
- Visually inspect the buccal mucosa. ***Repeat this process to examine the buccal mucosa on the left side of the mouth.***

SUBGROUP 3: UNDERLYING STRUCTURES OF THE LIPS AND CHEEKS

1. **Lower lip—palpate.**

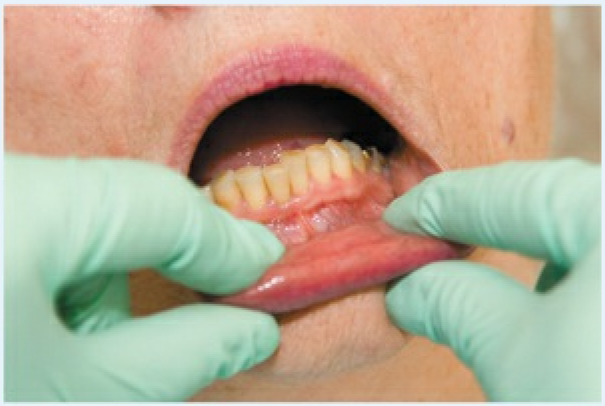


FIGURE 14-23

- Palpate the lower lip by compressing the tissues between your index fingers and thumbs.

2. **Right cheek—palpate.**

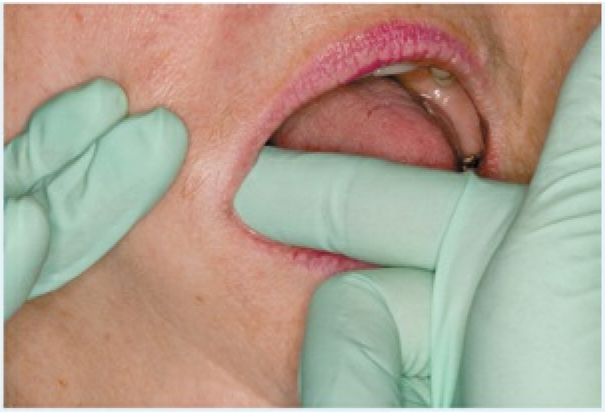


FIGURE 14-24

- Reposition your ***left hand with middle and ring fingers extraorally on the right cheek***. These fingers are not wet with saliva; your patient will appreciate this courtesy.
- Reposition ***the index finger of your right hand so that it is opposite the fingers of your left hand***.
- Compress the tissues on the right cheek between your fingers.
- Palpate the entire length of the buccal mucosa.
- Continue with Step 3 to palpate the left buccal mucosa.

3. **Upper lip—palpate.**

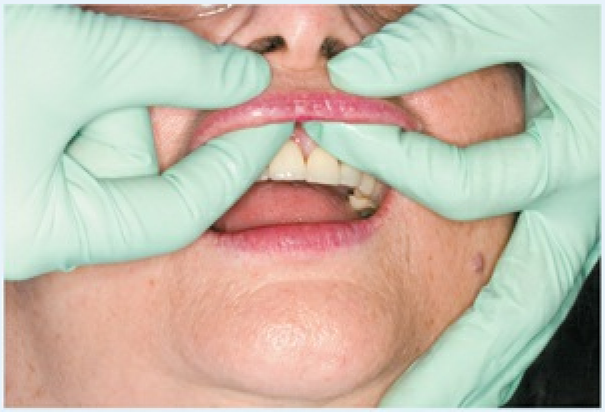


FIGURE 14-25

- Compress the tissues of the upper lip between the index fingers and thumbs.
- Palpate from the right commissure of the mouth to the left.

SUBGROUP 4: FLOOR OF THE MOUTH

1. **Anterior region of the floor of the mouth—visual inspection.**

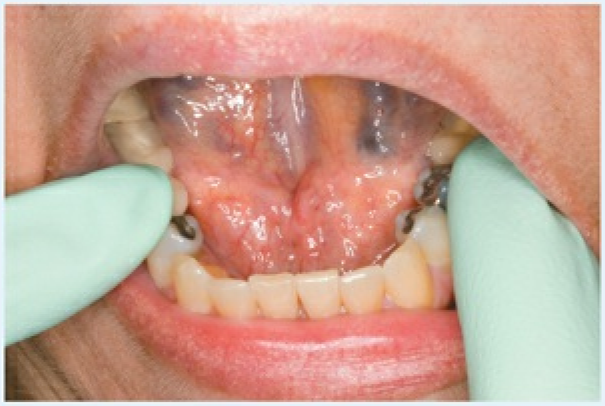


FIGURE 14-26

- Ask the patient to touch the tip of the tongue to the roof of the mouth.
- Inspect the floor of the mouth. The inspection will be easier if the patient is in a chin-down position.
- With the floor of the mouth well illuminated, visually inspect the anterior portion.
- A mouth mirror may be helpful in providing indirect illumination.

2. **Posterior region of the floor of the mouth—visual inspection.**

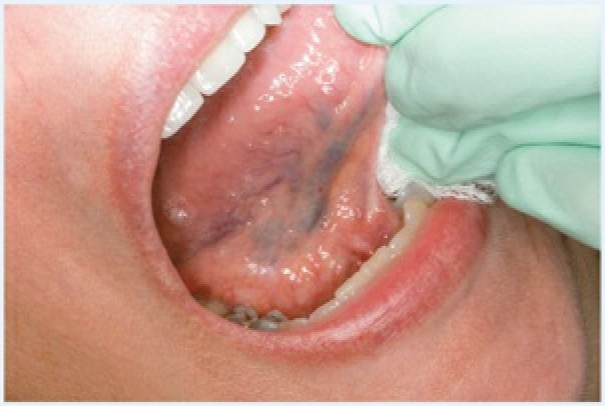


FIGURE 14-27

- Instruct your patient to relax the tongue and protrude it slightly. Fold a damp gauze square in half and grasp the tip of the tongue between the sides of the gauze square.

- Use your ***right hand*** to pull the tongue gently to the left commissure of the lip.
- Using your ***left hand*** to apply gentle pressure upward against the submandibular gland will make it easier see the right posterior region of the floor of the mouth.
- Visually inspect the floor of the mouth. Repeat this procedure on the left side of the mouth

3. **Floor of the mouth—palpation.**

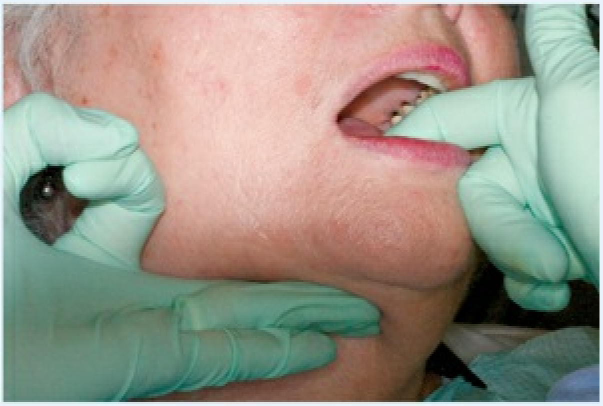


FIGURE 14-28

- Place your ***right index finger on the floor of the mouth***.
- Place the ***middle and ring fingers of the left hand under the patient's chin*** on the right side of the head. Ask the patient to relax the tongue and close the mouth slightly. This maneuver relaxes the muscles in the floor of the mouth.
- Gently move the tongue out of the way with your index finger and touch the floor of the mouth. Palpate the floor of the mouth by pressing upward with your extraoral fingers and downward with your index finger as if you are "trying to make your fingers meet."
- Palpate from the right posterior region forward to the anterior region and then back to the left posterior region of the floor of the mouth.

SUBGROUP 5: SALIVARY GLAND

FUNCTION

1. **Submandibular and sublingual ducts—examine.**

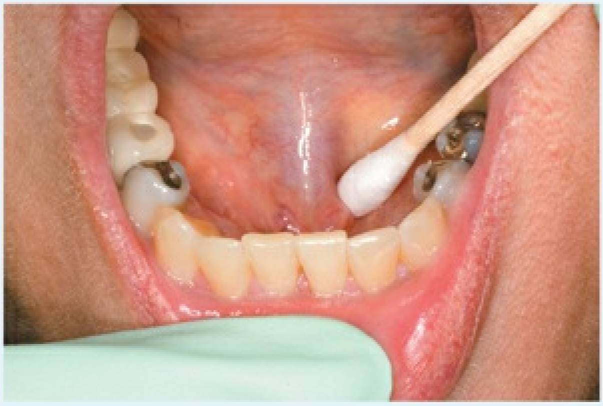


FIGURE 14-29

- Ask the patient to raise his or her tongue toward the roof of the mouth.
- Use a gauze square to gently dry the area around the sublingual caruncles and sublingual fold.
- Press down gently with a cotton-tipped applicator in the region of the caruncles. A drop or stream of saliva should be evident.

2. **Parotid salivary ducts—examine.**

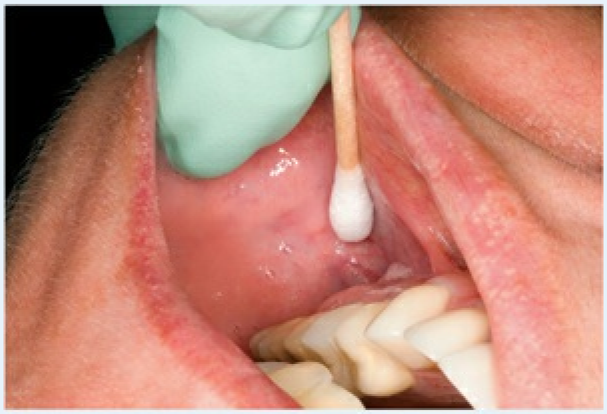


FIGURE 14-30

- Ask your patient to open the mouth half way so that the cheek is easy to retract.
- The purpose of this examination is to evaluate the functioning

of the right parotid gland.

- Retract the right cheek and locate the parotid papilla on the buccal mucosa opposite to the maxillary right molars.
- Dry the papilla with a gauze square; it will be difficult to detect saliva flowing out of the papilla if the area is wet.
- Using the tip of a cotton-tipped applicator, press the area slightly above the parotid papilla. It may be helpful to roll the cotton-tipped applicator from an area slightly above the papilla down to the papilla while applying pressure. Repeat this rolling action several times, as necessary.
- If the duct is functioning properly, a drop of saliva will be expressed from the papilla.
- Evaluate the parotid gland on the left side using the same procedure.

SUBGROUP 6: THE TONGUE

1. **Ventral surface of the tongue—visual inspection.**

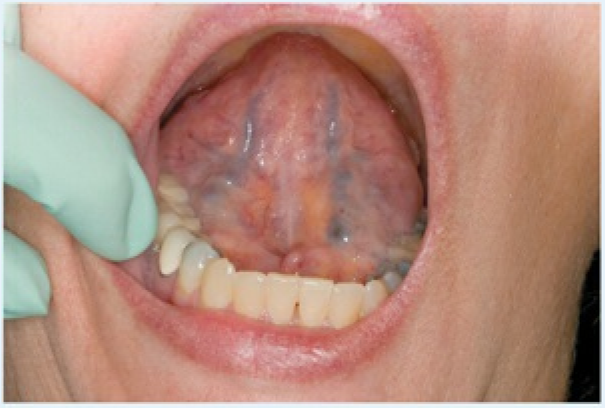


FIGURE 14-31

- Ask the patient to open wide and touch the tip of the tongue to the roof of the mouth.
- Closely inspect the ventral surface of the tongue.
- Keep in mind that the tongue is a frequent site of oral cancer.

2. **Dorsal Surface of the tongue—visual inspection.**

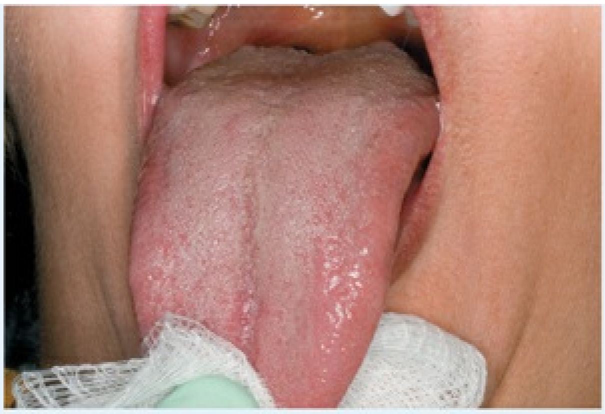


FIGURE 14-32

- Ask the patient to relax the tongue and protrude it slightly from the mouth.
- Grasp the tongue with a damp gauze square. **Technique tip:** Dry gauze may stick to the tongue so use the air/water syringe to wet the gauze before use.
- Gently pull the tongue forward being careful not to injure the lingual frenum on the incisal edges of the mandibular anterior teeth.
- Visually inspect the dorsal surface of the tongue. Use a mouth mirror, if it is helpful.
- Keep in mind that the tongue is a frequent site of oral cancer.

3. **Lateral borders of the tongue—visual inspection.**

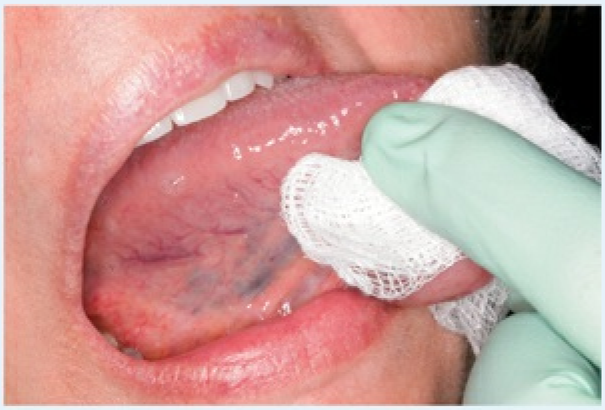


FIGURE 14-33

- Gently pull the tongue to the left commissure and evert it slightly to obtain a clear view of the lateral surface and foliate papillae.

- Visually inspect the lateral surface of the tongue.
- Use a mirror to view the posterior portion of the lateral surface.
- Repeat this procedure to inspect the left border of the tongue.

4. **Tongue—palpation.**

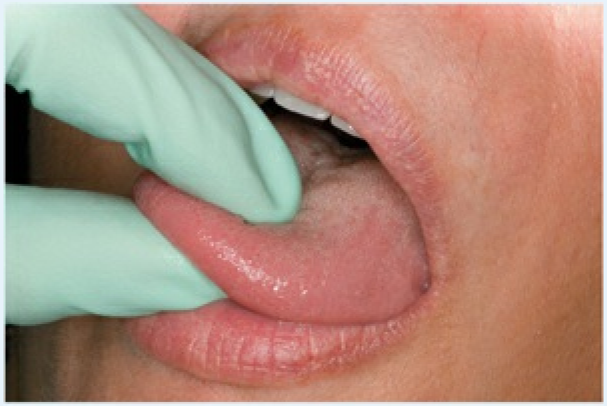


FIGURE 14-34

- Palpate the body of the tongue between your index finger and thumb.
- Be alert for swellings or nodules.

SUBGROUP 7: PALATE, TONSILS, AND OROPHARYNX

1. **Palate—preliminary visual inspection.**

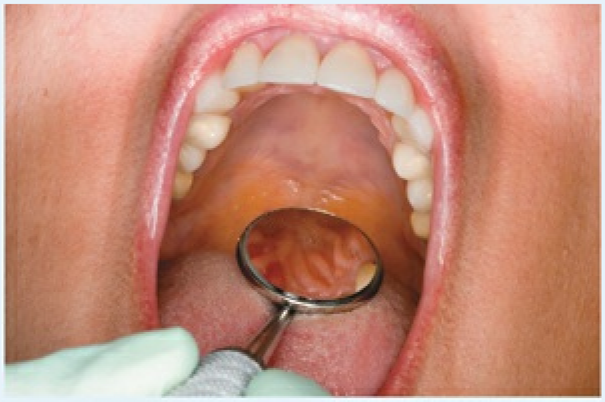


FIGURE 14-35

- Visually inspect the hard and soft palate, uvula, oropharynx, and tonsils.

2. **Hard and soft palate—palpate.**

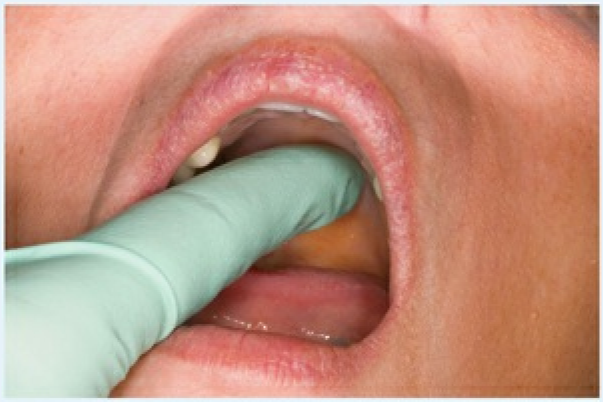


FIGURE 14-36

- Use intermittent pressure with your index finger to palpate the hard and soft palate.
- **Technique tip:** Avoid sliding your finger across the palate, as this technique may cause the patient to gag. Instead, lift your index finger away from the palate to reposition it. This technique facilitates palpation.

3. **Tonsils and oropharynx—visual inspection.**

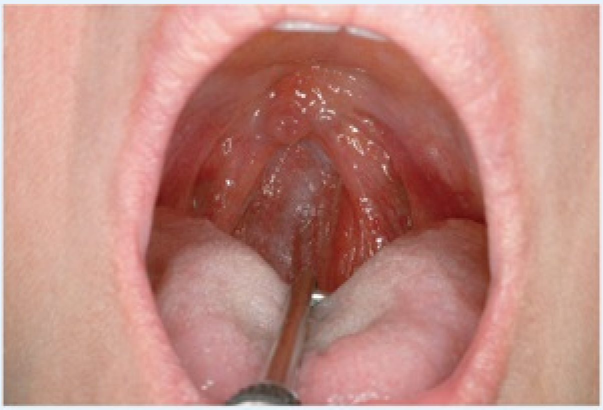


FIGURE 14-37

- You will need a mirror to move the tongue out of your line of vision.
- Position the mouth mirror with the reflecting surface down.

- Ask the patient to say “ah” as you depress the back of the tongue downward and forward. Firm forward and downward pressure is needed to keep the tongue out of your line of vision.
- Visually inspect the tonsils and oropharynx.

4. **Document.** Document all notable findings from the oral examination in the patient chart or computerized record.

SECTION 3 • The Human Element

Through the Eyes of a Student

MY FIRST ORAL EXAM

I so clearly remember the very first time that I did an intraoral exam. It was on my very first patient. Seeing my first patient was a day that I had dreamed about, but now that it was here, I was very nervous. The first part of the appointment went well, but then it was here—the time to do the oral examination. There seemed to be so much to check, and I was worried that

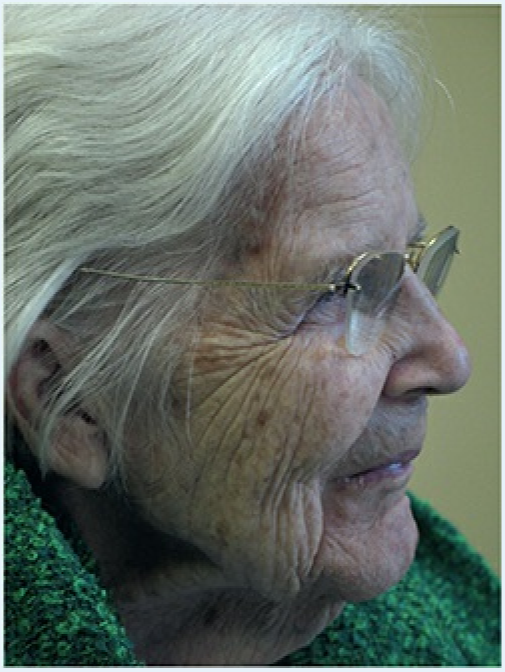
I would forget to check an area. Fortunately, my patient must have realized how nervous I was because he said, “Take your time, I am retired. I am in no hurry.”

I started the exam and heard my instructor’s voice in my mind saying that the key to any procedure is to work through it one step at a time. I concentrated on going step-by-step, and before I knew it, I had completed the exam. I remember my relief when I finished the exam. Suddenly it was over—the procedure that I had worried about all last night—and I felt like yelling, “I did it!” To this day, I don’t think that I ever do an oral exam without remembering the first time I did this examination.

Joanne, RDH,
Graduate, University of North Carolina at Chapel Hill

Ethical Dilemmas

“CREAM OF WHEAT”



You have been a dental hygienist for approximately 20 years and just started a new job as a nursing home hygienist. You provide dental hygiene services to the residents in a variety of care facilities. Today, you are working with the founder of the company, Dr. Ari, and are seeing the patients on an Alzheimer floor. You complete the intraoral examination for your next patient, Florence, who is unresponsive and makes no eye contact. You notice three large white lesions in the back of Florence's throat. You check Florence's throat two additional times as best as you can, as she is not very cooperative. Dr. Ari is very busy providing restorative care, but you ask him to check Florence's throat at his convenience. He states that you are probably mistaking the white lesions for "Cream of Wheat" that was served for breakfast. You examine Florence again, and confirm that the lesions are **not** from a food source and again ask for Dr. Ari to examine Florence.

1. What ethical principles come into play here?
2. Why are you concerned about the white lesions in Florence's throat?
3. How would you proceed in this situation?

ADOLESCENT PATIENT WITH AN ORAL LESION

As a first-year dental hygiene student in your second semester, you have just started treating patients. Today, a group of patients from a local adolescent correctional facility will be the patients in the clinic. You will be treating Grace, a 16-year-old female who has an uneventful medical history assessment, which you have reviewed with the social worker accompanying the group.

You begin treatment and perform an extraoral examination on Grace. As everything is within normal limits, you proceed to the intraoral examination. You retract the right cheek of the buccal mucosa and find a large red and white lesion in the mucobuccal fold that extends the entire length of the cheek. Since this is the first soft tissue lesion that you have ever found on a patient, you are not sure what to do next.

1. Is it ethical to share this information with your instructor/social worker?
2. How do you inform/educate Grace about the lesion?
3. How do you document the lesion in Grace’s chart or computerized record?
4. What do you teach Grace about her own oral health?

English-to-Spanish Phrase List

TABLE 14-8 ENGLISH-TO-SPANISH PHRASE LIST FOR ORAL EXAMINATION

I am going to examine the soft tissues of your mouth.	Voy ha examinar el tejido suave de su boca
Please remove your partials or dentures.	Por favor saque las dentarudas
I am going to recline the dental chair.	Voy ha recliner la silla dental
Please wear these safety glasses.	Por favor pongase estos espejuelos de seguridad
Just relax. This examination is not painful and only takes a few minutes.	No tenga miedo. La examinacion no duele, y solamente toma unos minutos
At any time during the examination, please tell me if any area is tender.	Ha cualquier teimpo durante la examinacion, por favor digame si tiene algun area que es sensible
First, I will examine your lips and cheeks.	Primero voy ha examiner los labios y mejillas
Please open wide.	Por favor abra su boca ancho
Please close slightly.	Por favor cierre un poco
Please tilt your head forward (back).	Por favor incline su cabeza hacia delante Por favor incline su cabeza para atras
Please tilt your chin down.	Por favor incline la barbilla hacia abajo
Please **turn** your head to the right (left).	Por favor vuelta su cabeza para la derecha Por favor vuelta su cabeza para la izquierda
Please **tilt** your head to the right (left).	Por favor incline su cabeza para la derecha Por favor incline su cabeza para la izquierda
Please look straight ahead.	Por favor mire ha el frente
I am checking the floor of your mouth.	Estoy examinando el suelo de su boca
I am checking your saliva ducts.	Estoy examinando la glandula de saliva
Next, I will check your tongue.	Ahora voy ha examiner su lengua
Please press your tongue against the roof of your mouth.	Por favor aprete su lengua contra el techo de la boca

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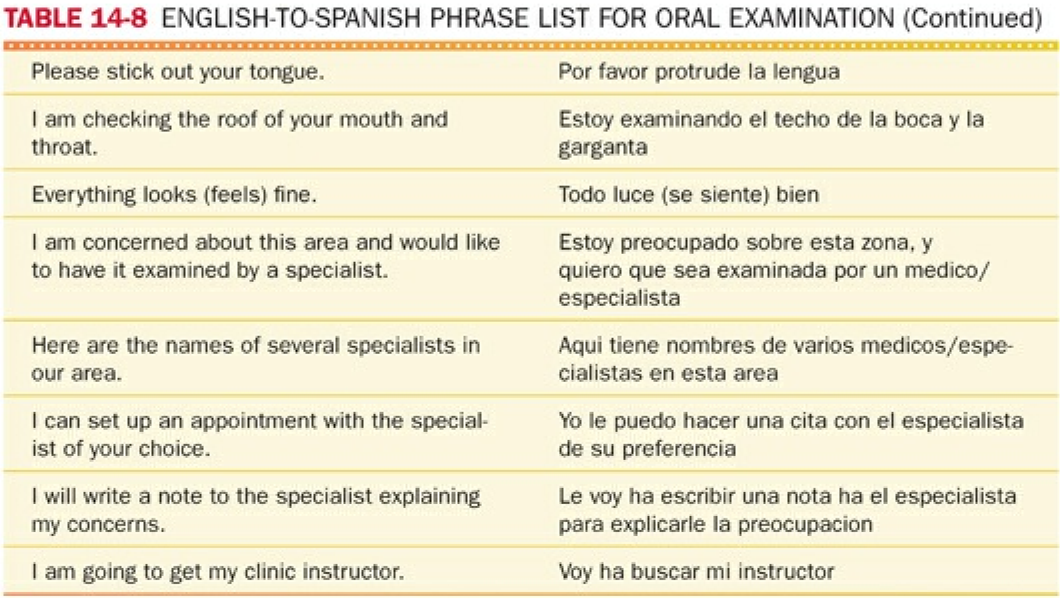


TABLE 14-8 ENGLISH-TO-SPANISH PHRASE LIST FOR ORAL EXAMINATION (Continued)

Please stick out your tongue.	Por favor protrude la lengua
I am checking the roof of your mouth and throat.	Estoy examinando el techo de la boca y la garganta
Everything looks (feels) fine.	Todo luce (se siente) bien
I am concerned about this area and would like to have it examined by a specialist.	Estoy preocupado sobre esta zona, y quiero que sea examinada por un medico/especialista
Here are the names of several specialists in our area.	Aqui tiene nombres de varios medicos/especialistas en esta area
I can set up an appointment with the specialist of your choice.	Yo le puedo hacer una cita con el especialista de su preferencia
I will write a note to the specialist explaining my concerns.	Le voy ha escribir una nota ha el especialista para explicarle la preocupacion
I am going to get my clinic instructor.	Voy ha buscar mi instructor

SECTION 4 • Practical Focus—Fictitious Patient Cases

DIRECTIONS

- The photographs in this section show the findings from the oral examination of fictitious patients A to E. Refer to previous modules to refresh your memory regarding each patient's health history and vital signs because there may be a connection between the patient's systemic health status or habits and the findings from the head and neck examination.
- If appropriate, use the Lesion Descriptor Worksheet to develop descriptions for the findings in this section.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.
- **Note:** The clinical photographs in a fictitious patient case are for illustrative purposes but are not necessarily from the same individual. The fictitious patient cases are designed to enhance the learning experiences associated with each case.

Sources of Clinical Photographs

The author gratefully acknowledges the sources of the following clinical photographs in the “Practical Focus” section of this module.

- Figure 14-39. Dr. Richard Foster, Guilford Technical Community College.
- Figure 14-41. From Fleisher GR, Ludwig L, Baskin MN. *Atlas of Pediatric Emergency Medicine*. Philadelphia, PA: Lippincott Williams & Wilkins; 2004.
- Figure 14-43. Dr. Richard Foster, Guilford Technical Community College.
- Figure 14-44. Dr. Richard Foster, Guilford Technical Community College.
- Figure 14-46. Dr. Richard Foster, Guilford Technical Community College.
- Figure 14-48. Dr. John S. Dozier, Tallahassee, FL.

Fictitious Patient Case A: Mr. Alan Ascari

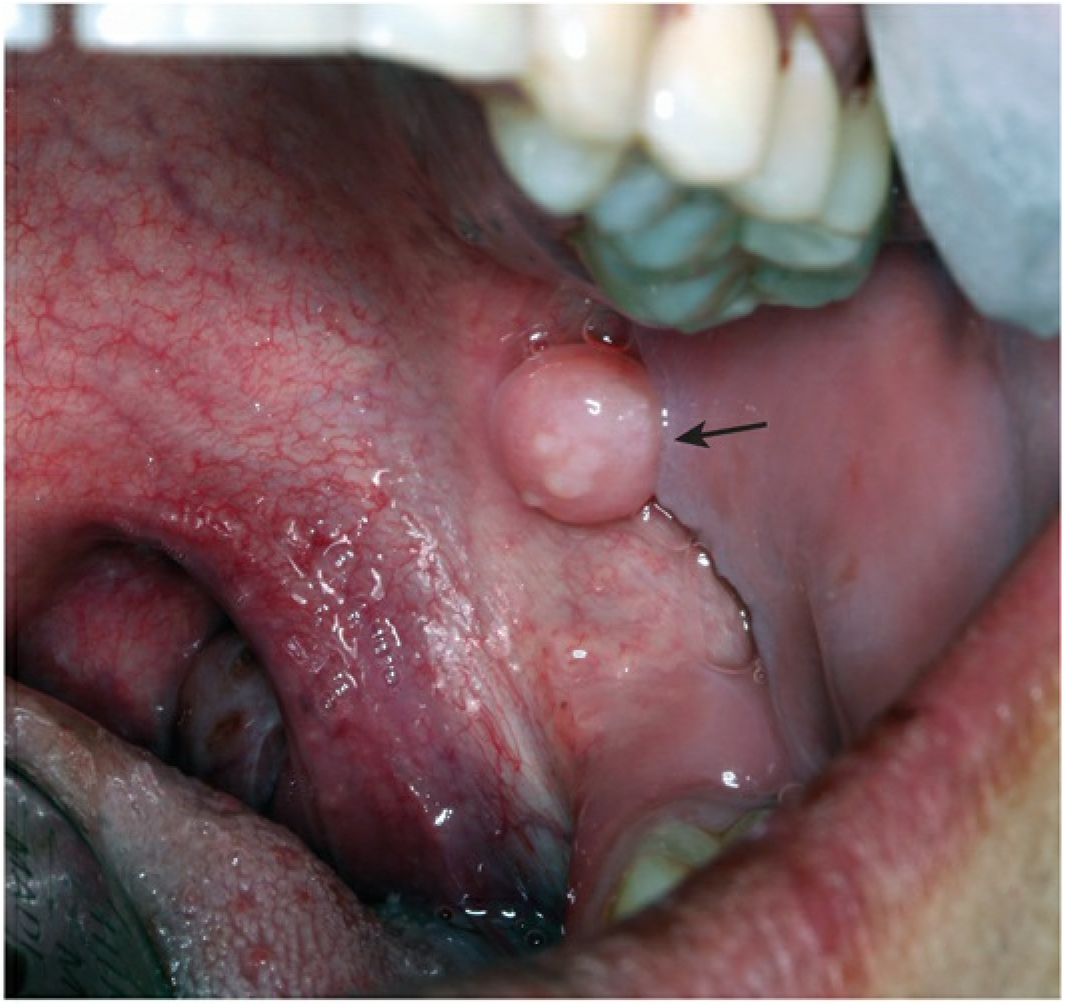
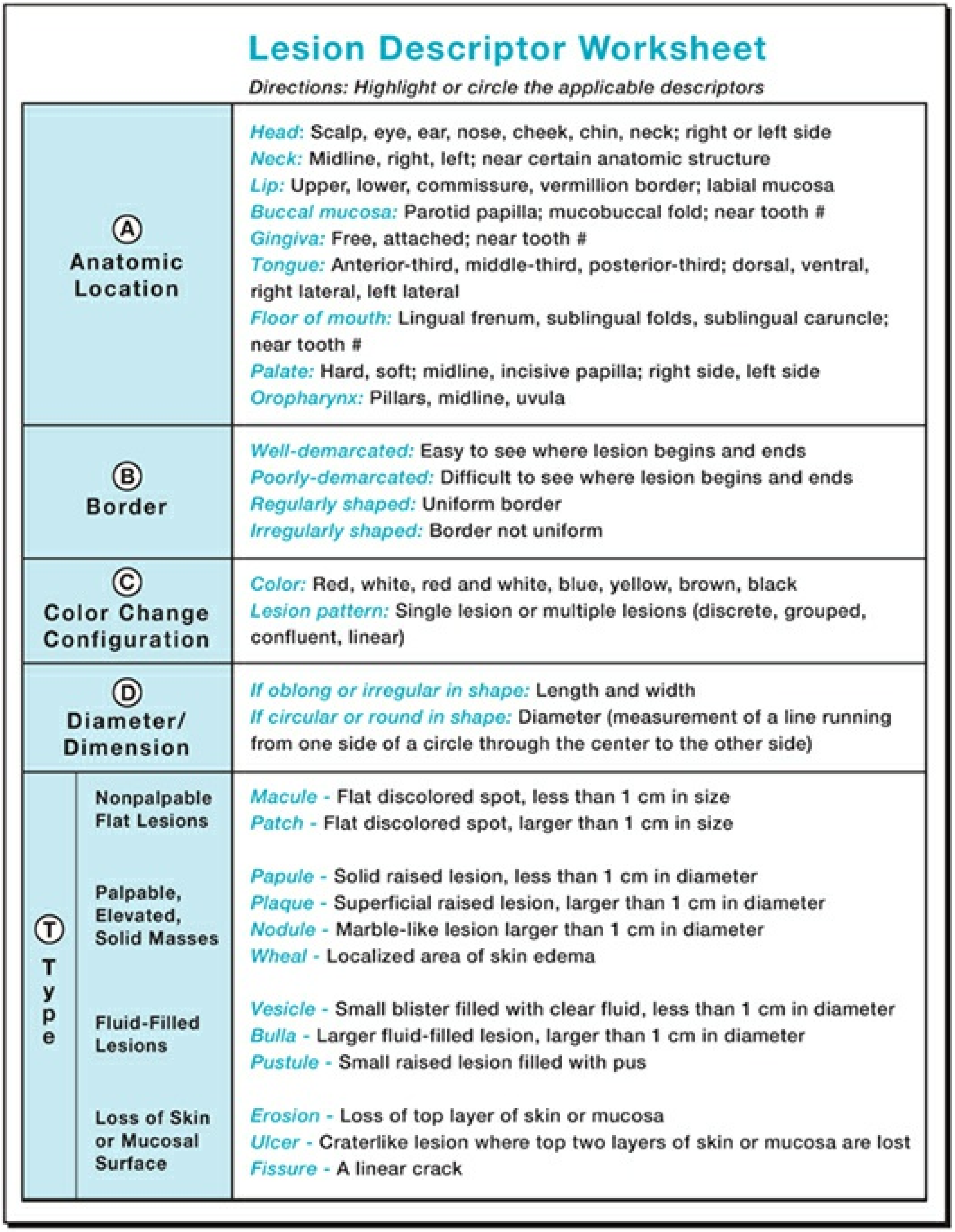


FIGURE 14-38 Mr. Ascari: finding on the left buccal mucosa.

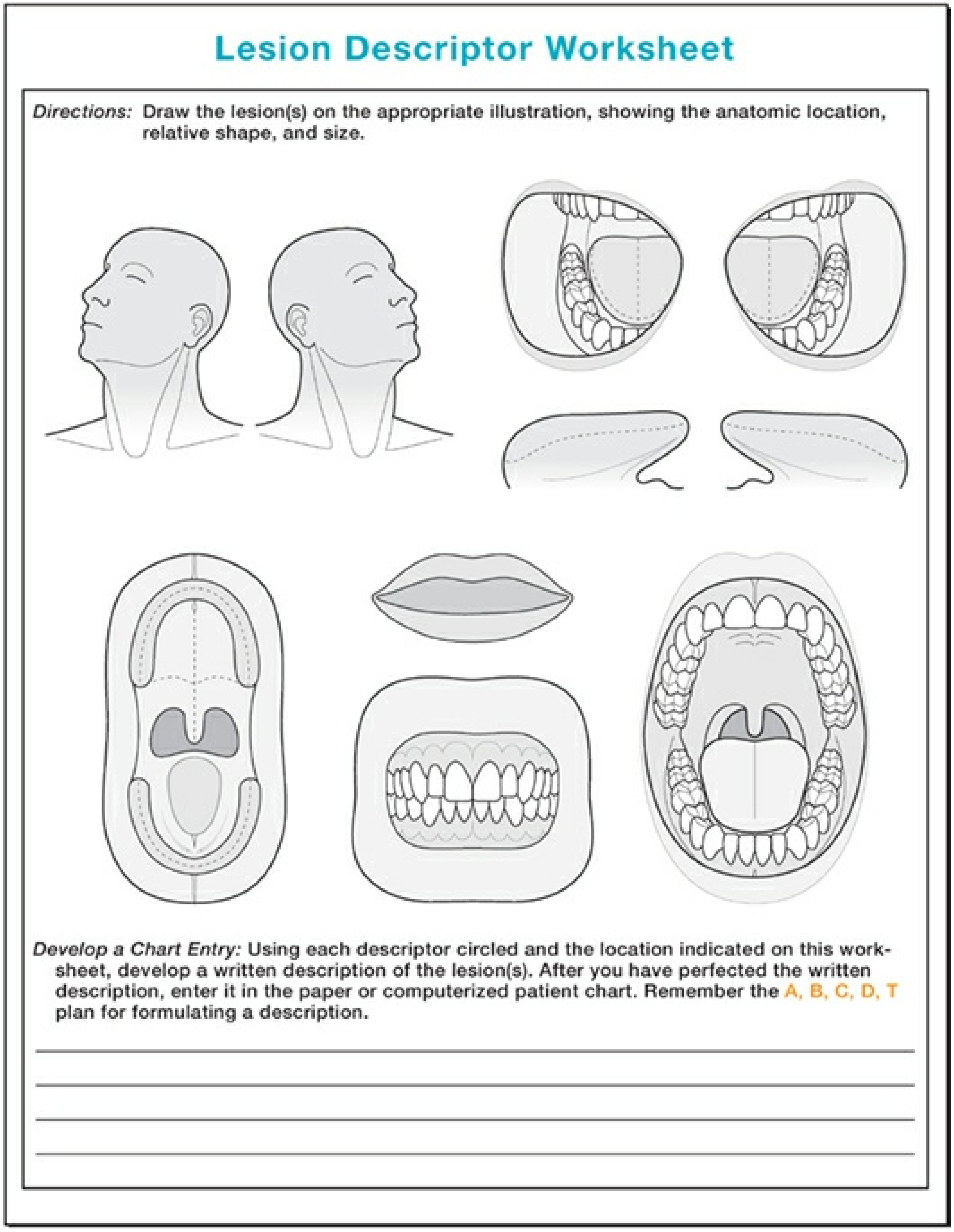


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head*: Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 14-39A Page 1 of Lesion Descriptor Worksheet for Mr. Ascari.



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 14-39B Page 2 of Lesion Descriptor Worksheet for Mr. Ascari.

Fictitious Patient Case B: Bethany Biddle

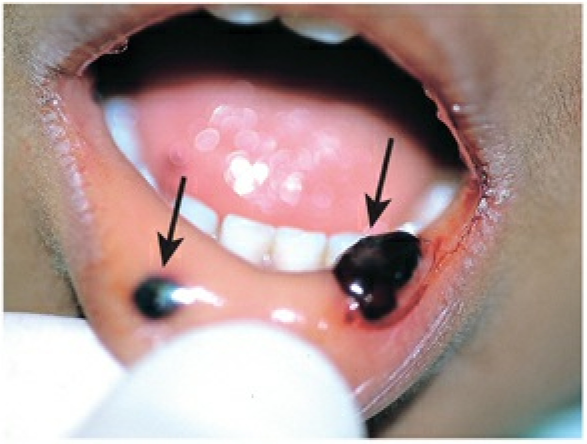
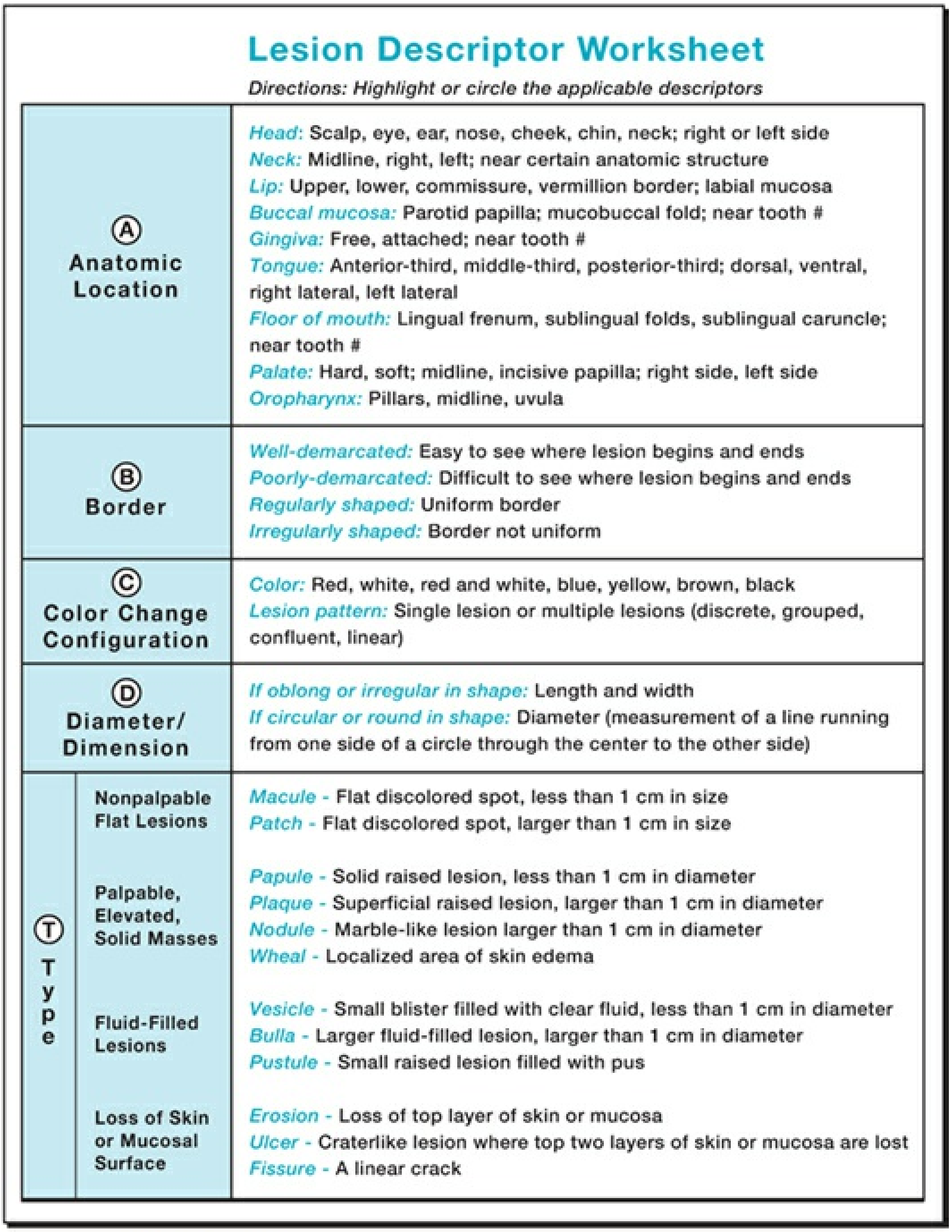


FIGURE 14-40 Bethany Biddle: findings on mucosa of lower lip.

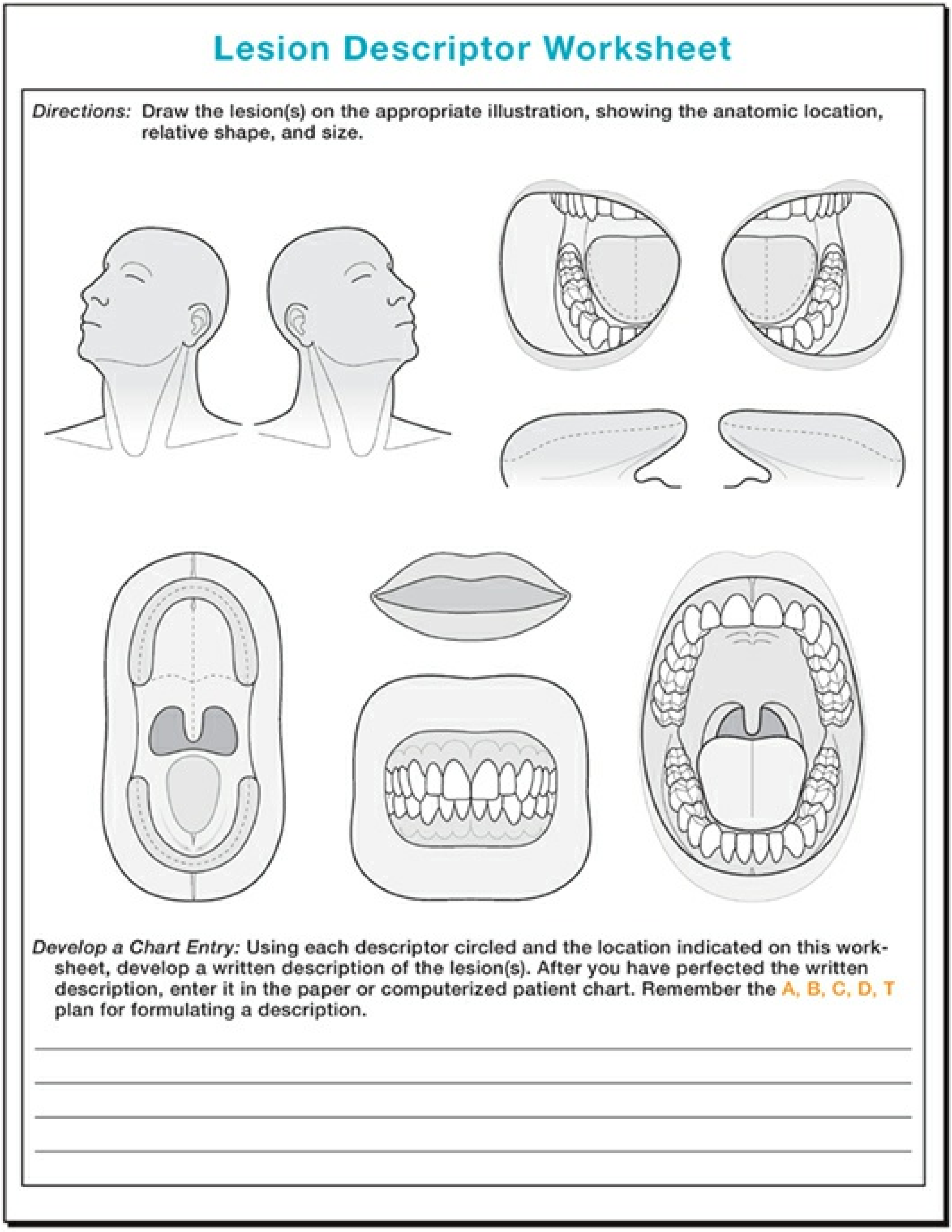


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 14-41A **Page 1 of Lesion Descriptor Worksheet for Bethany Biddle.**



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 14-41B Page 2 of Lesion Descriptor Worksheet for Bethany Biddle.

Fictitious Patient Case C: Mr. Carlos Chavez

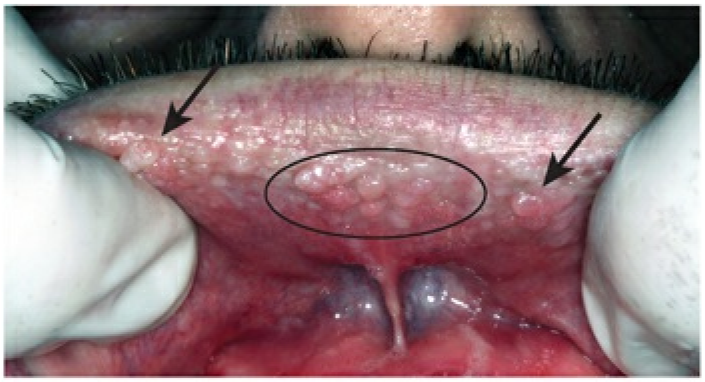


FIGURE 14-42 Mr. Chavez: findings on mucosa of upper lip.

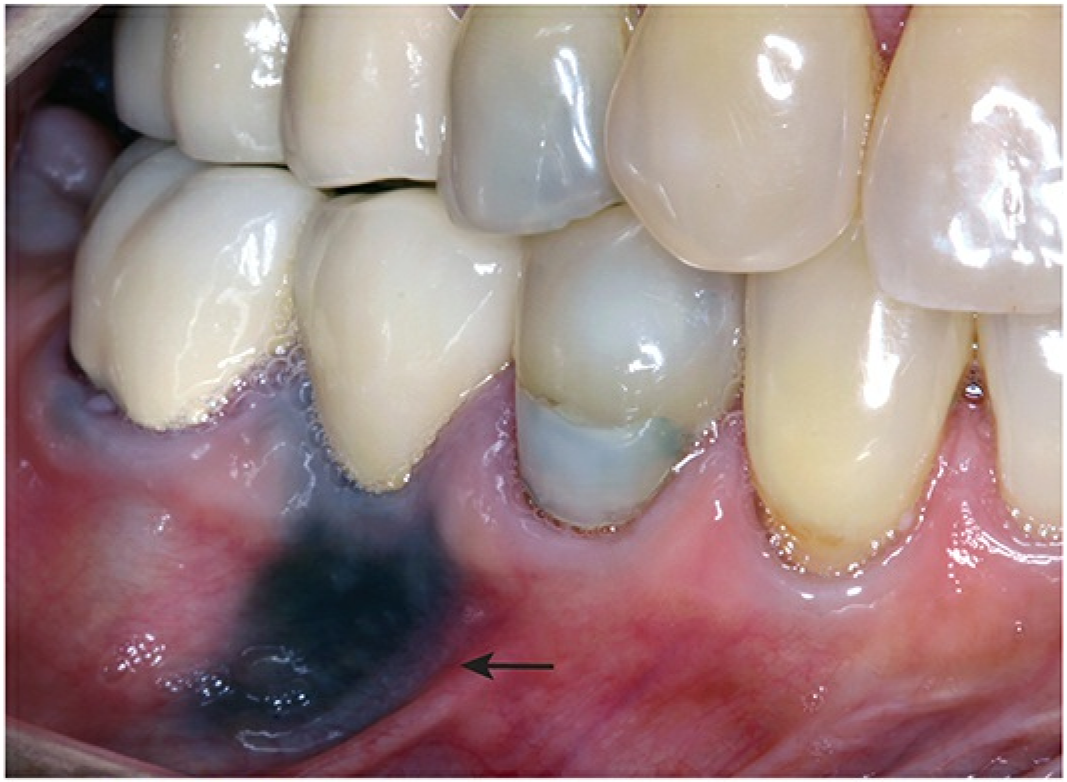
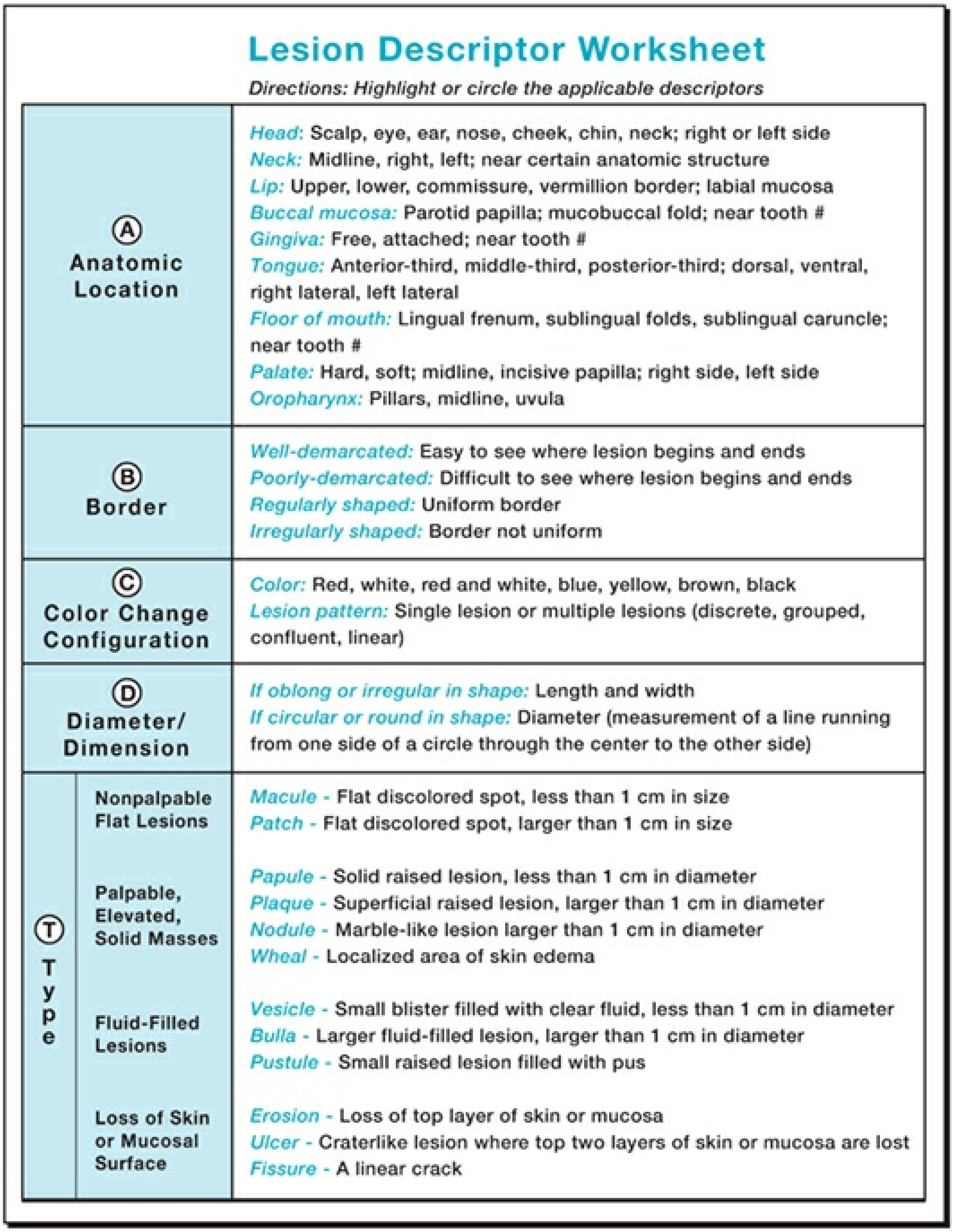


FIGURE 14-43 Mr. Chavez: finding on tissue on mandibular right sextant.

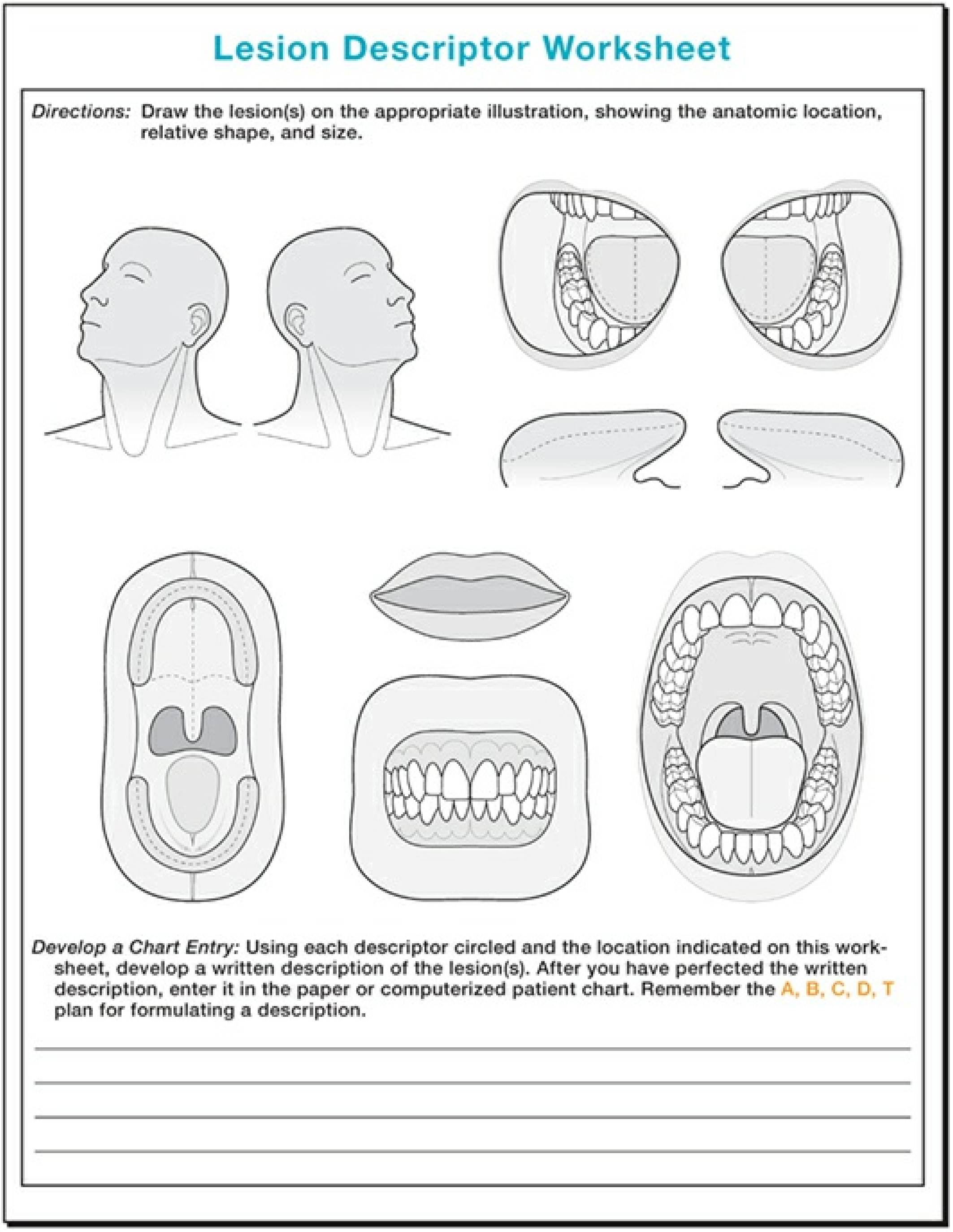


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head*: Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 14-44A Page 1 of Lesion Descriptor Worksheet for Mr. Chavez.



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 14-44B Page 2 of Lesion Descriptor Worksheet for Mr. Chavez.

Fictitious Patient Case D: Mrs. Donna Doi

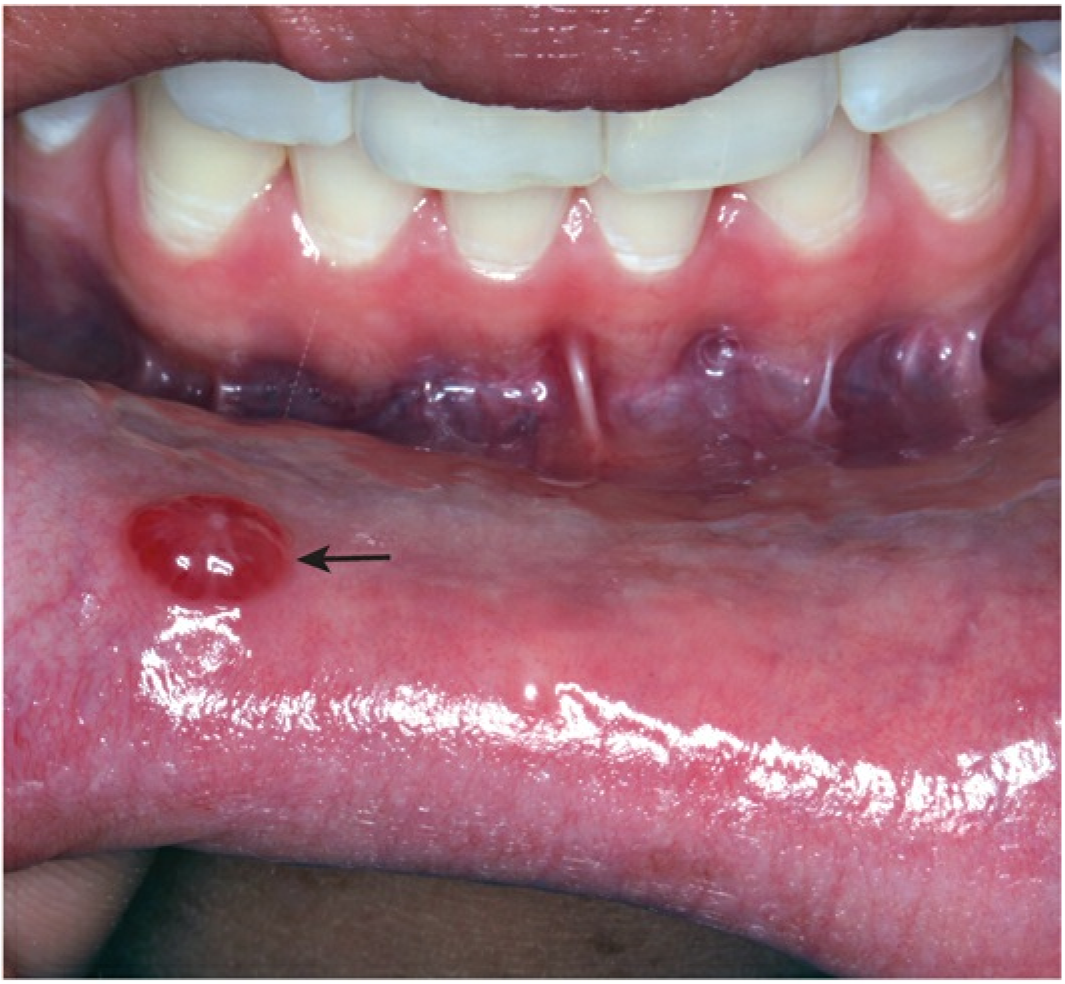
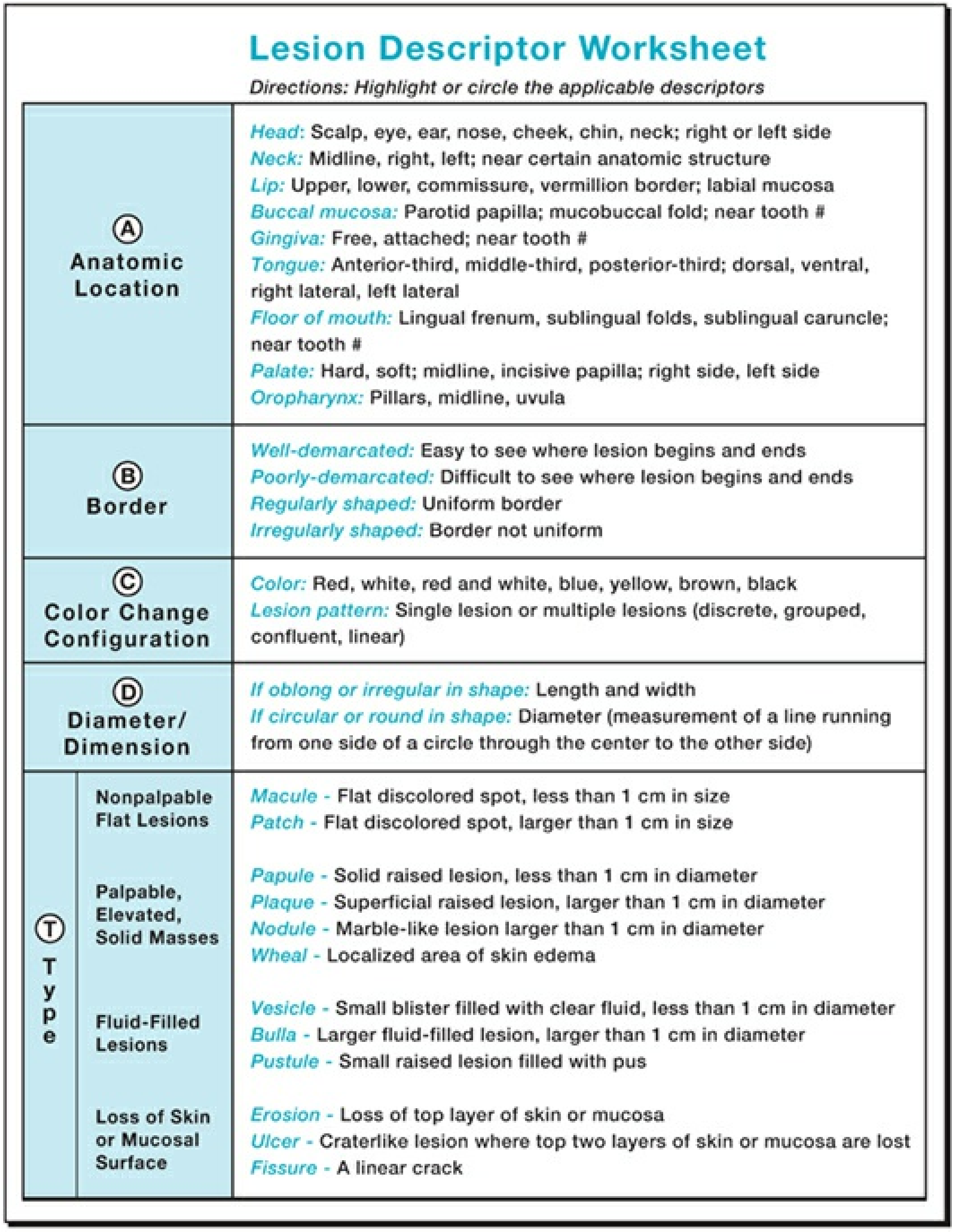


FIGURE 14-45 Mrs. Doi: finding on mucosa of lower lip.

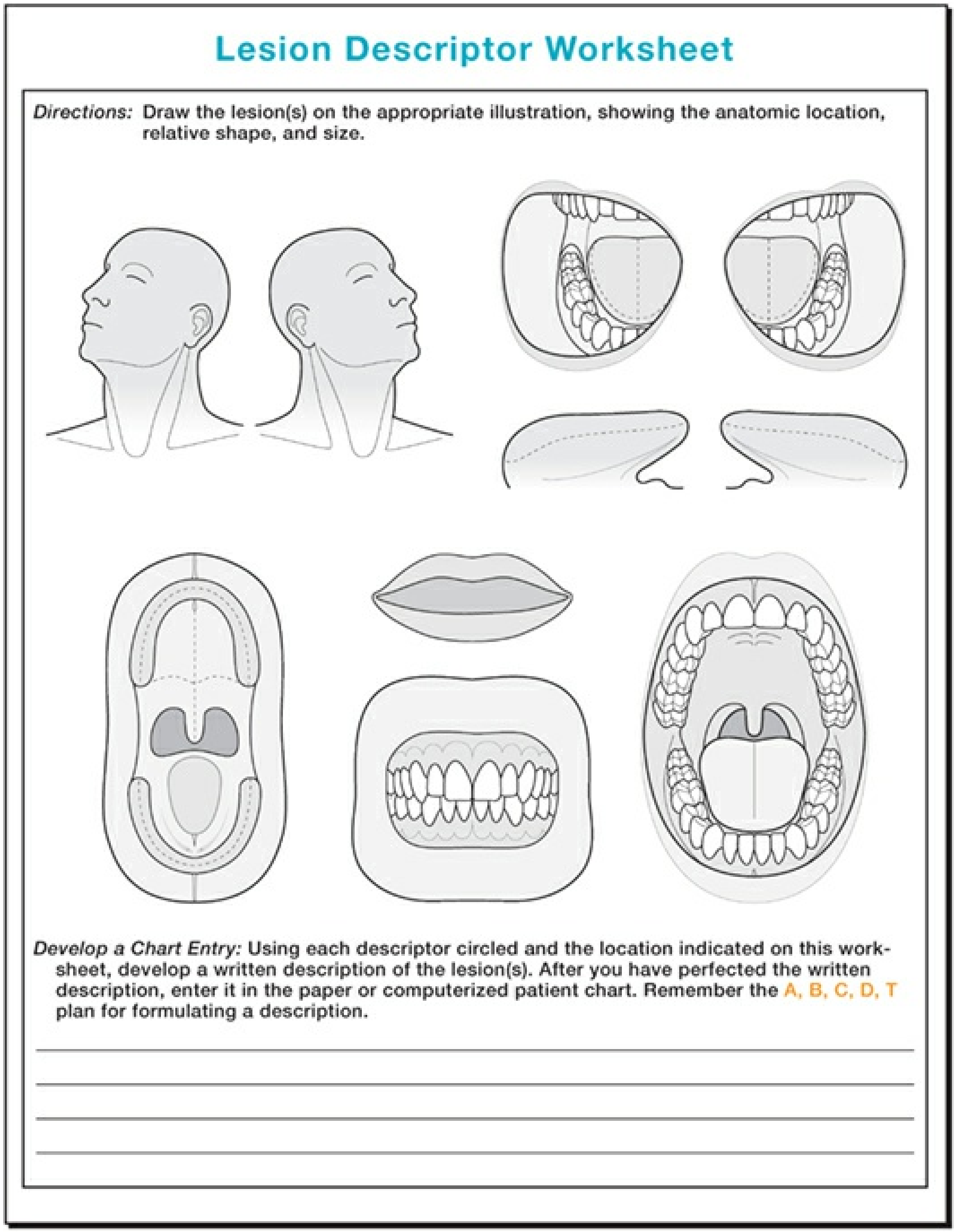


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ Anatomic Location		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ Border		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ Color Change Configuration		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ Diameter/ Dimension		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ Type	Nonpalpable Flat Lesions	*Macule -* Flat discolored spot, less than 1 cm in size *Patch -* Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule -* Solid raised lesion, less than 1 cm in diameter *Plaque -* Superficial raised lesion, larger than 1 cm in diameter *Nodule -* Marble-like lesion larger than 1 cm in diameter *Wheal -* Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle -* Small blister filled with clear fluid, less than 1 cm in diameter *Bulla -* Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule -* Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion -* Loss of top layer of skin or mucosa *Ulcer -* Craterlike lesion where top two layers of skin or mucosa are lost *Fissure -* A linear crack

FIGURE 14-46A **Page 1 of Lesion Descriptor Worksheet for Mrs. Doi.**



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 14-46B Page 2 of Lesion Descriptor Worksheet for Mrs. Doi.

Fictitious Patient Case E: Ms. Esther Eads

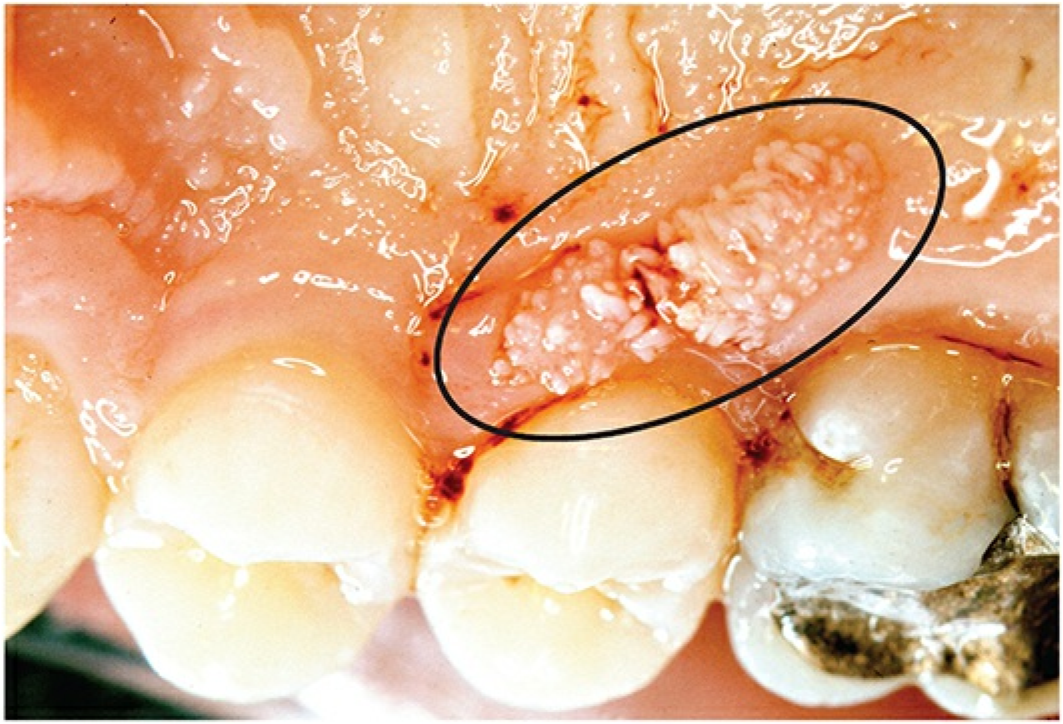
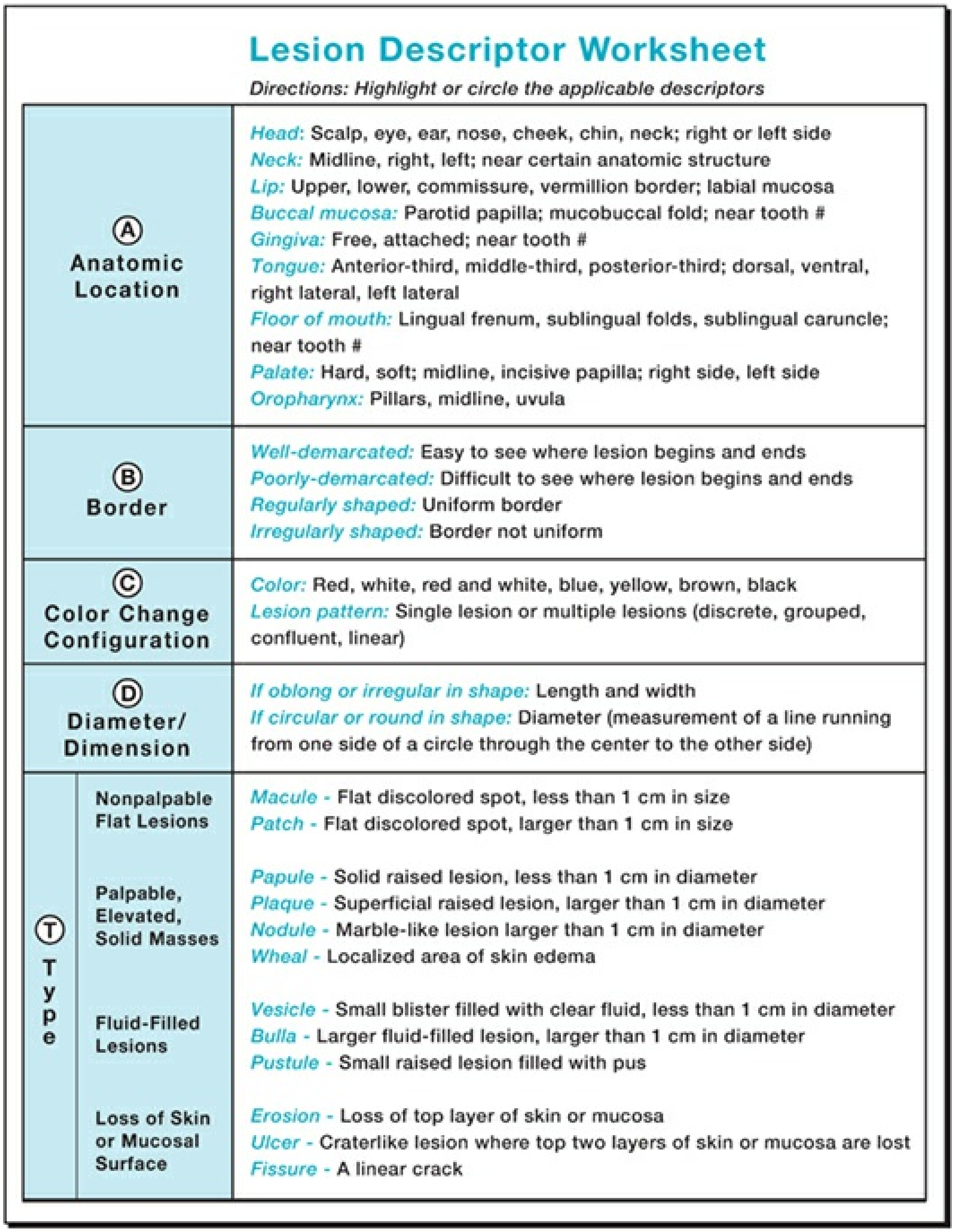


FIGURE 14-47 Ms. Eads: finding on the right side of the palate.

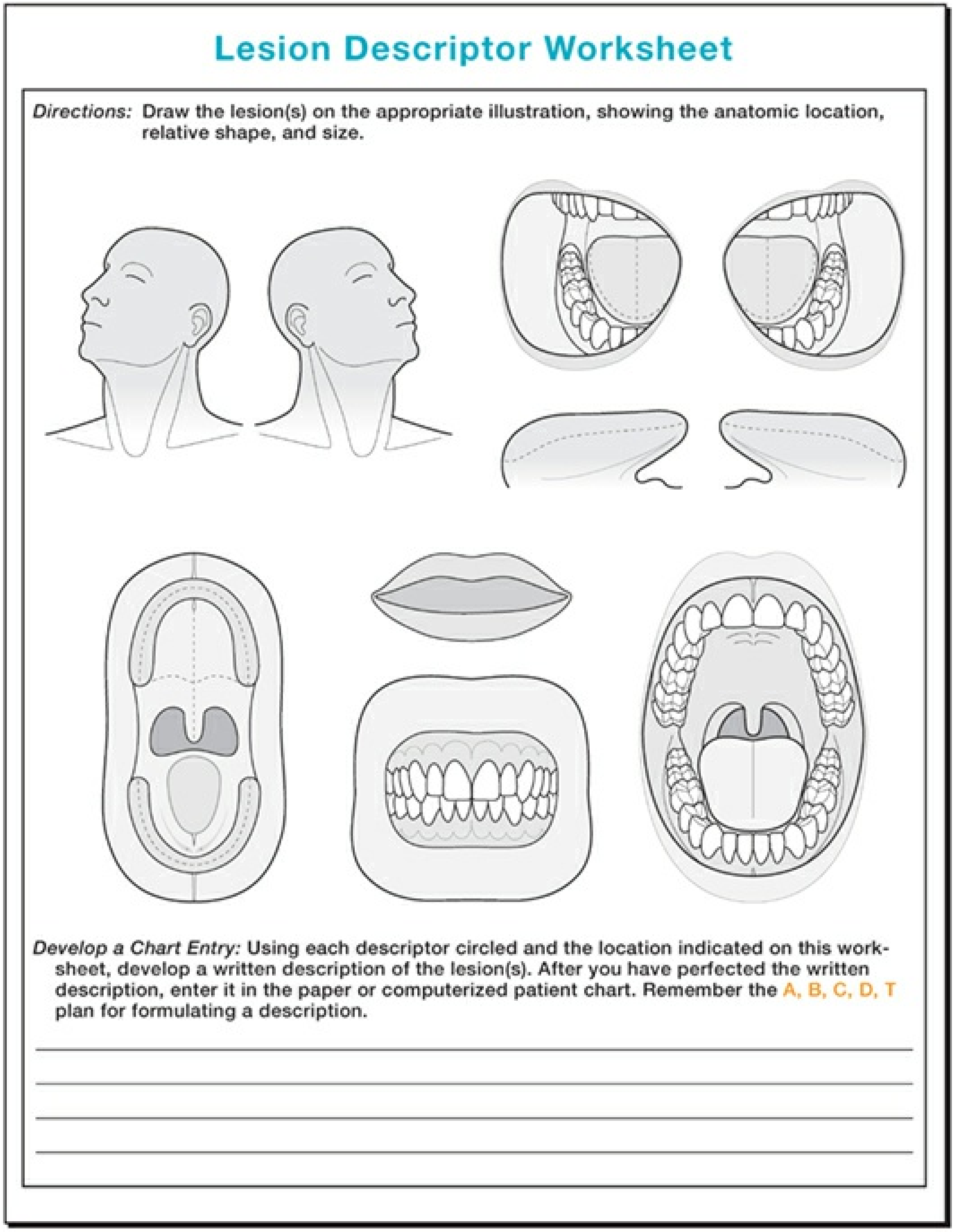


Lesion Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors

Ⓐ **Anatomic Location**		*Head:* Scalp, eye, ear, nose, cheek, chin, neck; right or left side *Neck:* Midline, right, left; near certain anatomic structure *Lip:* Upper, lower, commissure, vermillion border; labial mucosa *Buccal mucosa:* Parotid papilla; mucobuccal fold; near tooth # *Gingiva:* Free, attached; near tooth # *Tongue:* Anterior-third, middle-third, posterior-third; dorsal, ventral, right lateral, left lateral *Floor of mouth:* Lingual frenum, sublingual folds, sublingual caruncle; near tooth # *Palate:* Hard, soft; midline, incisive papilla; right side, left side *Oropharynx:* Pillars, midline, uvula
Ⓑ **Border**		*Well-demarcated:* Easy to see where lesion begins and ends *Poorly-demarcated:* Difficult to see where lesion begins and ends *Regularly shaped:* Uniform border *Irregularly shaped:* Border not uniform
Ⓒ **Color Change Configuration**		*Color:* Red, white, red and white, blue, yellow, brown, black *Lesion pattern:* Single lesion or multiple lesions (discrete, grouped, confluent, linear)
Ⓓ **Diameter/ Dimension**		*If oblong or irregular in shape:* Length and width *If circular or round in shape:* Diameter (measurement of a line running from one side of a circle through the center to the other side)
Ⓣ **Type**	**Nonpalpable Flat Lesions**	*Macule* - Flat discolored spot, less than 1 cm in size *Patch* - Flat discolored spot, larger than 1 cm in size
	Palpable, Elevated, Solid Masses	*Papule* - Solid raised lesion, less than 1 cm in diameter *Plaque* - Superficial raised lesion, larger than 1 cm in diameter *Nodule* - Marble-like lesion larger than 1 cm in diameter *Wheal* - Localized area of skin edema
	Fluid-Filled Lesions	*Vesicle* - Small blister filled with clear fluid, less than 1 cm in diameter *Bulla* - Larger fluid-filled lesion, larger than 1 cm in diameter *Pustule* - Small raised lesion filled with pus
	Loss of Skin or Mucosal Surface	*Erosion* - Loss of top layer of skin or mucosa *Ulcer* - Craterlike lesion where top two layers of skin or mucosa are lost *Fissure* - A linear crack

FIGURE 14-48A Page 1 of Lesion Descriptor Worksheet for Ms. Eads.



Lesion Descriptor Worksheet

Directions: Draw the lesion(s) on the appropriate illustration, showing the anatomic location, relative shape, and size.

Develop a Chart Entry: Using each descriptor circled and the location indicated on this worksheet, develop a written description of the lesion(s). After you have perfected the written description, enter it in the paper or computerized patient chart. Remember the A, B, C, D, T plan for formulating a description.

FIGURE 14-48B Page 2 of Lesion Descriptor Worksheet for Ms. Eads.

SECTION 5 • Skill Check

Technique Skill Checklist: Oral Examination

Student: ______________________________ Evaluator: ______________________________

Date: ______________________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, each **U** equals 0 point.

CRITERIA:	S	E
Subgroup 1: Visual Inspection of Lips and Vermillion Border		
Provides patient with safety glasses and positions patient in the supine position.		
Dons gloves.		
Visually inspects the lips and vermillion border.		
Subgroup 2: Inspection of the Oral Cavity and Mucosal Surfaces		
Adjusts the dental unit light so that the oral cavity is well illuminated.		
Visually inspects the oral cavity and oropharynx. Identifies any condition that would cause the oral examination to be modified or postponed.		
Visually inspects the upper and lower lips.		
Visually inspects the buccal mucosa of both cheeks.		
Subgroup 3: Palpation of the Lips and Cheeks		
Palpates the upper and lower lips.		

Palpates the buccal mucosa of both cheeks.		
Subgroup 4: Floor of the Mouth		
Inspects the anterior region of the mouth.		
Retracts the tongue and inspects the posterior region of the floor of the mouth.		
Palpates the floor of the mouth.		
Subgroup 5: Salivary Gland Function		
Examines the parotid salivary ducts in both sides of the mouth.		
Examines the submandibular and sublingual ducts.		
Subgroup 6: The Tongue		
Inspects the ventral surface of the tongue.		
Inspects the dorsal surface of the tongue.		
Inspects the lateral surfaces of the tongue.		
Palpates the tongue.		
Subgroup 7: Palate, Tonsils, and Oropharynx		
Visually inspects the palate.		
Palpates the hard and soft palate.		
Inspects the tonsils and oropharynx.		
Documents notable findings in the patient chart or computerized record.		
OPTIONAL GRADE PERCENTAGE CALCULATION		

Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Oral Examination

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of a fictitious patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT CLINICIAN: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains what is to be done.		
Reports notable findings to the patient. As needed, makes referrals to a physician or dental specialist.		
Encourages patient questions before and during the oral examination.		
Answers the patient’s questions fully and		

accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

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MODULE

15

GINGIVAL DESCRIPTION

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MODULE OVERVIEW

This module presents a systematic approach to describing the characteristics of the gingiva. The ability to formulate a concise, accurate written or verbal description of the gingiva is an important component of patient assessment.

This module covers the gingival description, including:

- Characteristics of the gingiva in health
- Changes in gingival characteristics in disease
- Formulating a description of gingival characteristics

MODULE OUTLINE

SECTION 1 Learning to Look at the Gingiva
Characteristics of the Gingiva in Health
Changes in Disease

SECTION 2 Peak Procedure
Procedure 15-1. Determining Gingival Characteristics

SECTION 3 **Ready References**

Gingival Descriptor Worksheet
Gingival Characteristics Chart: Maxillary Arch
Gingival Characteristics Chart: Mandibular Arch

SECTION 4 **The Human Element**

Through the Eyes of a Student
Ethical Dilemma
English-to-Spanish Phrase List

SECTION 5 **Practical Focus—Fictitious Patient Cases**

Fictitious Patient Case A: Mr. Alan Ascari
Fictitious Patient Case B: Bethany Biddle
Fictitious Patient Case C: Mr. Carlos Chavez
Fictitious Patient Case D: Mrs. Donna Doi
Fictitious Patient Case E: Ms. Esther Eads

SECTION 6 **Skill Check**

KEY TERMS

Exudate • Enlarged • Coronal to CEJ • Apical to CEJ • Bulbous • Blunted • Cratered • Nodular • Marginal • Papillary • Diffuse

OBJECTIVES

- Describe gingival characteristics that are indicative of health and disease.
- Demonstrate the use of communication strategies to provide information to the patient about gingival characteristics and any notable findings.
- Accurately communicate gingival characteristics to a clinical instructor. Discuss the implications of notable findings.
- Given an image of a sextant of the mouth, use the Gingival Descriptor Worksheet to identify characteristics of the gingiva.
- Demonstrate knowledge of gingival characteristics by applying

information from this module to the fictitious patient cases A to E in this module.

SECTION 1 • Learning to Look at the Gingiva

The ability to formulate a concise, accurate written or verbal description of the gingiva is an important component of the patient assessment process. The following characteristics of the gingiva should be assessed:

1. Color
2. Size
3. Position of margin
4. Shape of margins and papillae
5. Texture and consistency
6. Bleeding and/or **exudate**

Characteristics of the Gingiva in Health

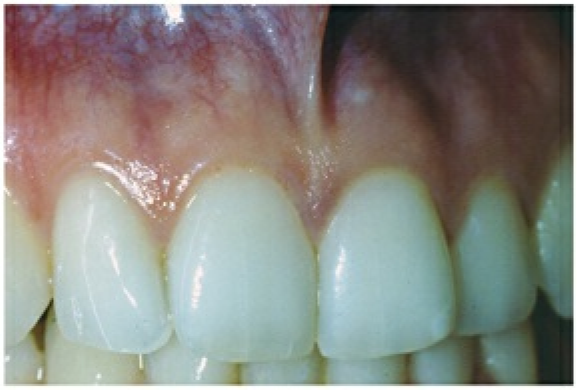


FIGURE 15-1 Healthy gingival tissues—facial aspect. This gingival tissue exhibits all the signs of health: tissue that fits snugly around the tooth and tapers to meet the tooth at a fine edge, pointed papillae that completely fill the embrasure spaces, and firm, resilient tissue. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

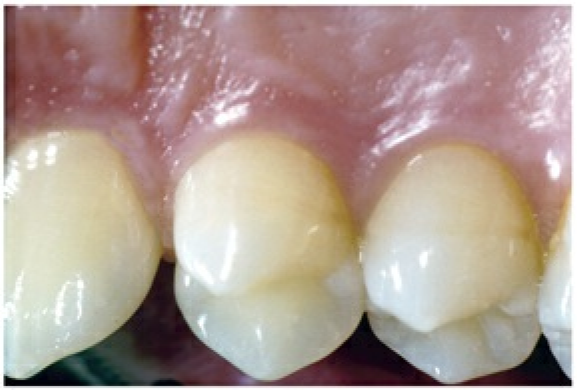


FIGURE 15-2 **Healthy gingival tissues—lingual aspect.** This gingival tissue on the lingual aspect of the maxillary arch is an excellent example of health. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

TABLE 15.1 CHARACTERISTICS OF THE GINGIVA

Characteristic	Healthy Tissue	Changes in Disease
Color	Uniform pink color Pigmented	Bright red, bluish purple, white, or pale pink
Size	Fits snugly around the tooth	**Enlarged**
Position of margin	Near the cementoenamel junction (CEJ): 1–2 mm coronal to the CEJ	• More than 2 mm **coronal to CEJ** • **Apical to CEJ**
Shape	Marginal gingiva: meets the tooth in a tapered or slightly rounded edge Interdental papillae: flat, pointed papilla fills the embrasure space between two adjacent teeth	Marginal gingiva: meets the tooth in a rolled, thickened, or irregular edge Interdental papillae: papilla may be **bulbous**, **blunted**, **cratered**, or missing
Texture	Normal Stippled	• Smooth, shiny, no stippling • Firm and **nodular** (fibrotic)
Consistency	Firm Resilient under compression	• Soft, flaccid • Spongy, puffy • Leathery, not resilient
Bleeding/exudate	No bleeding No exudate	• Spontaneous bleeding upon probing; heavy bleeding upon probing in acute gingivitis • Exudate

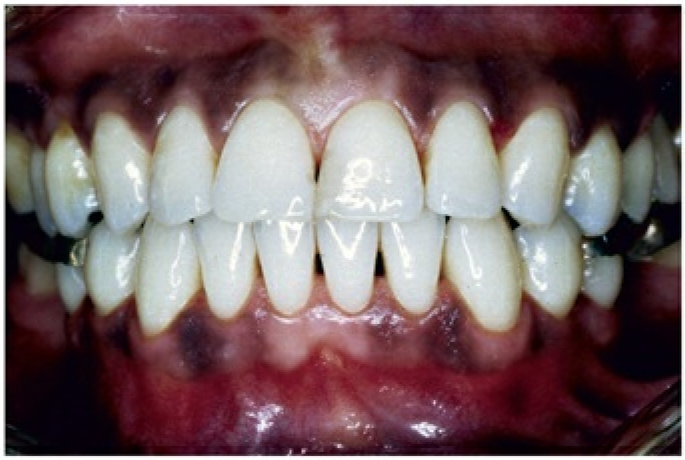


FIGURE 15-3 **Color—normal variation.** Pigmented areas are commonly visible in the gingival tissues of dark skinned individuals.

Changes in Disease

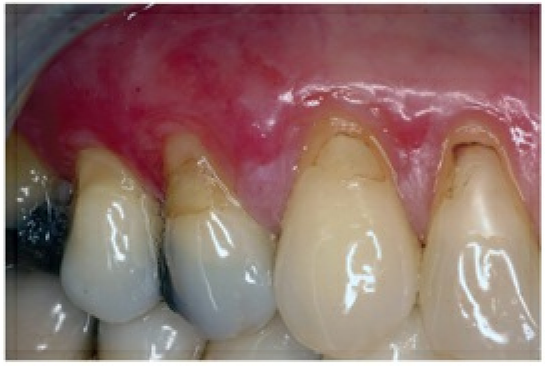


FIGURE 15-4 **Change in color.** Red tissue. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

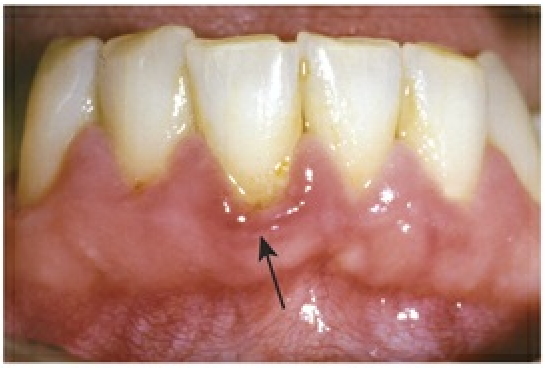


FIGURE 15-5 **Change in color.** Red margin. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

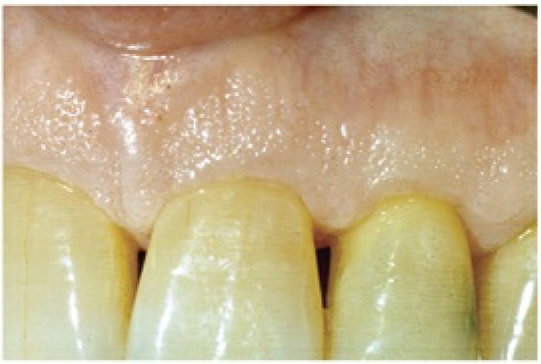


FIGURE 15-6 **Change in color.** Pale pink gingival tissue.

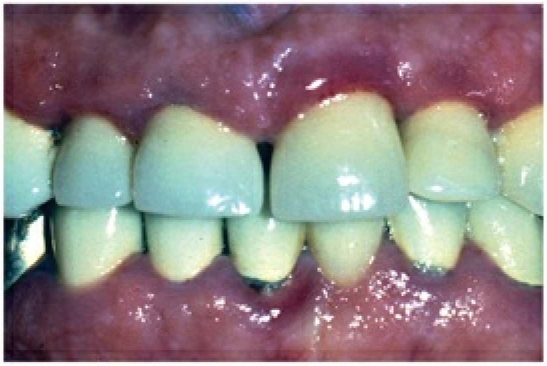


FIGURE 15-7 **Change in size.** Enlarged tissue.

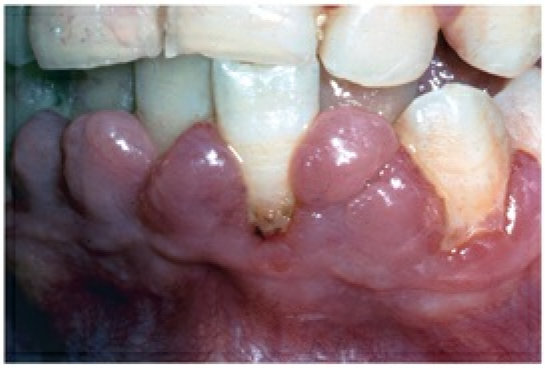


FIGURE 15-8 **Change in size.** Enlarged tissue.

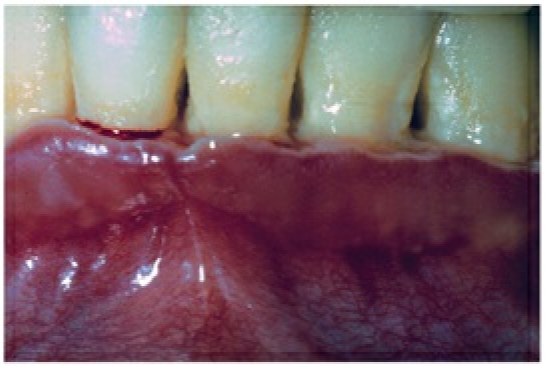


FIGURE 15-9 **Change in position of margin.** Gingival margin coronal to (above) the cementoenamel junction. (Clinical photographs on this page are courtesy of Dr. Don Rolfs, Wenatchee, WA.)

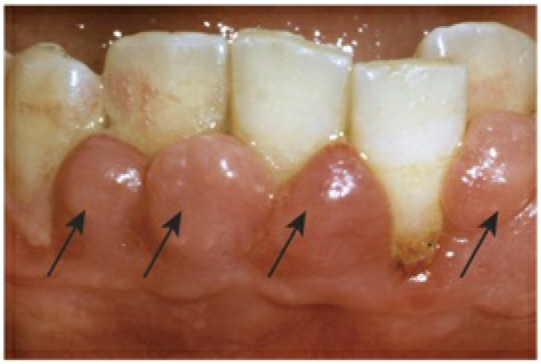


FIGURE 15-10 Change in position of margin. Gingival margin coronal to (above) the cementoenamel junction.

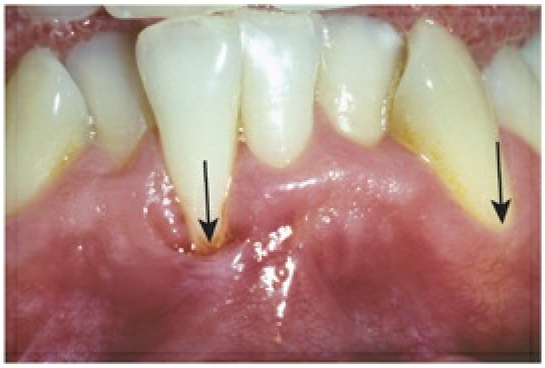


FIGURE 15-11 Change in position of margin. Gingival margin apical to (below) the cementoenamel junction.

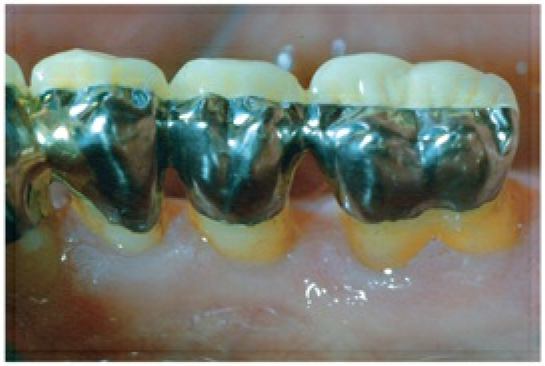


FIGURE 15-12 Change in position of margin. Gingival margin apical to (below) the cementoenamel junction.

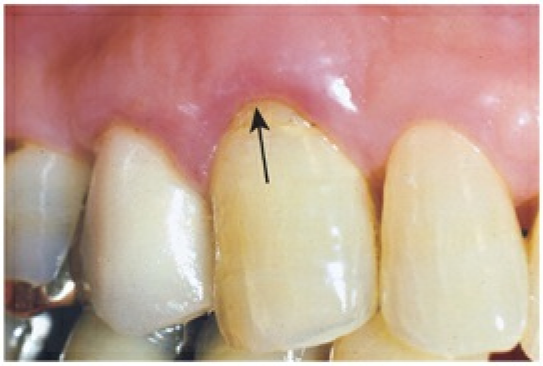


FIGURE 15-13 Change in shape of margin. Gingival margin thickened and rolled. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

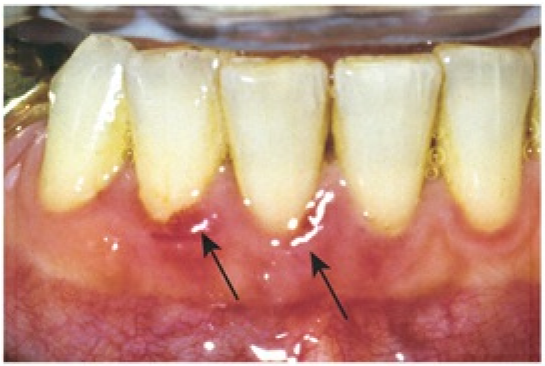


FIGURE 15-14 Change in shape of margin. Gingival margin thickened and rolled.

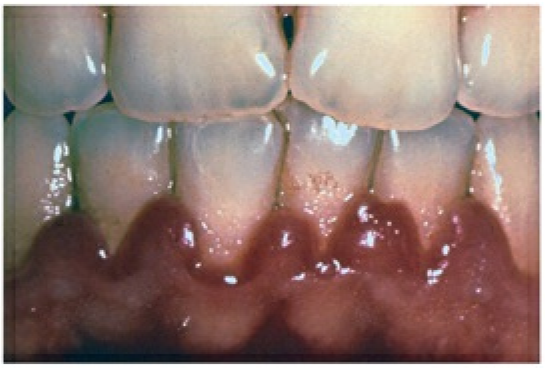


FIGURE 15-15 Change in shape of papilla. Bulbous papillae.

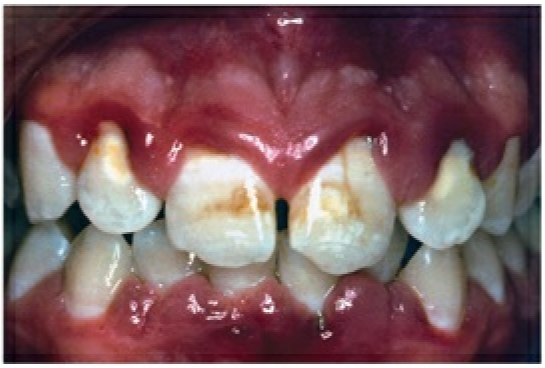


FIGURE 15-16 Change in shape of papilla. Bulbous papillae.

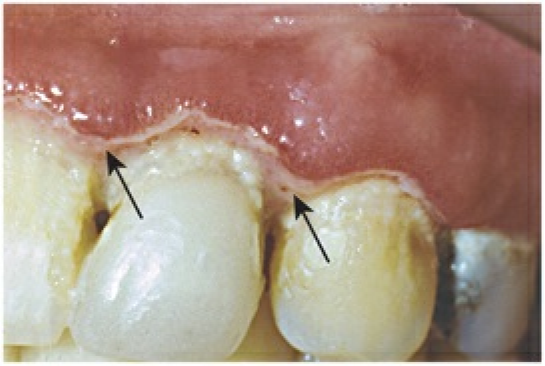


FIGURE 15-17 Change in shape of papilla. Cratered papillae. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

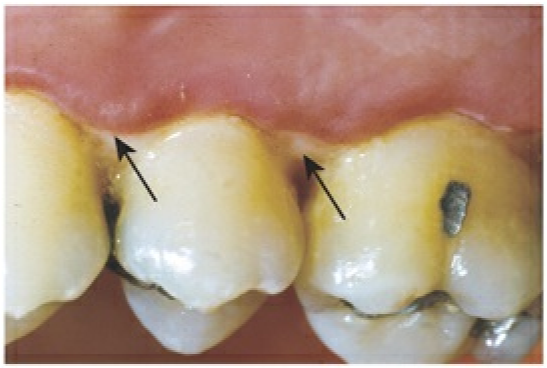


FIGURE 15-18 **Change in shape of papilla.** Cratered papillae.

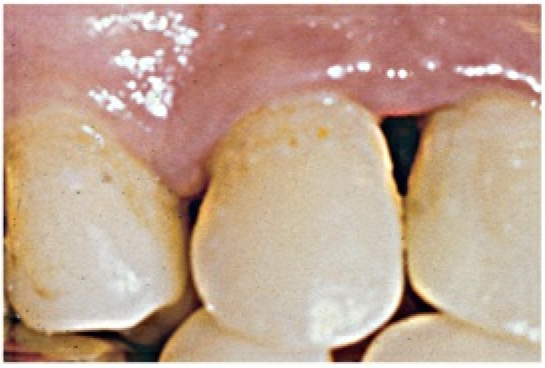


FIGURE 15-19 **Change in shape of papilla.** Missing and blunted papillae.

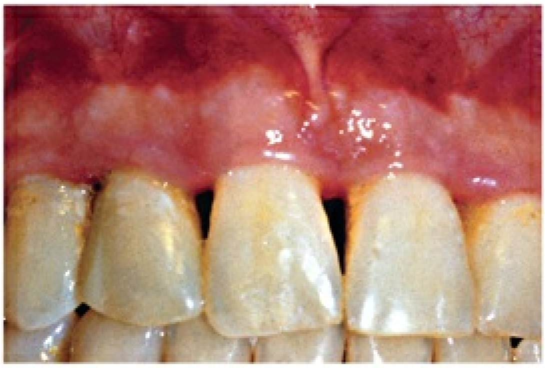


FIGURE 15-20 **Change in shape of papilla.** Missing and blunted papillae.

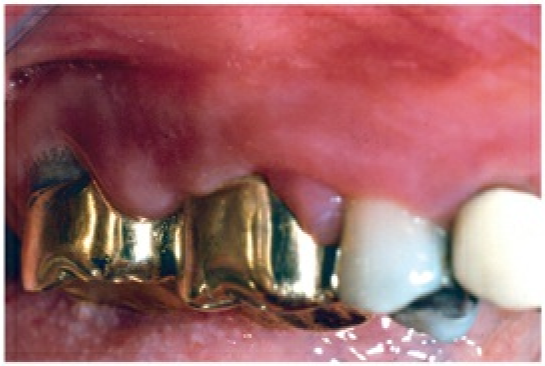


FIGURE 15-21 **Change in texture and consistency.** Tissue soft and flaccid (lacking firmness), spongy. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

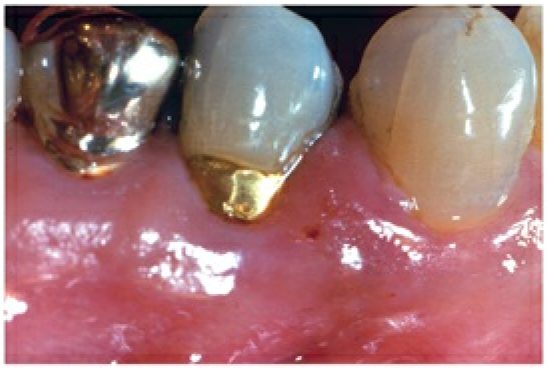


FIGURE 15-22 Change in texture and consistency. Smooth, shiny tissue.

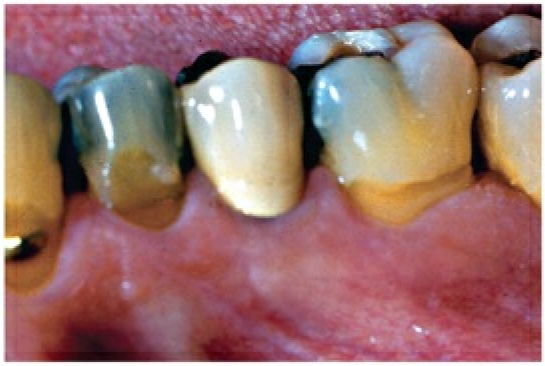


FIGURE 15-23 Change in texture and consistency. Smooth, shiny tissue.

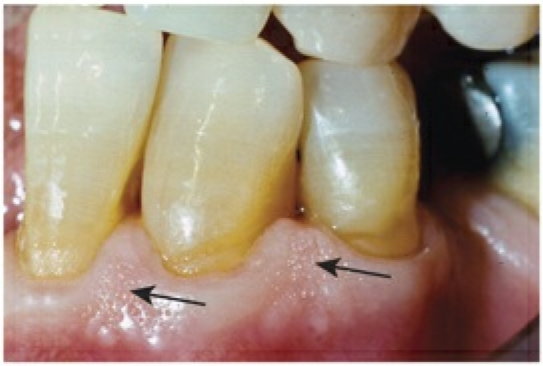


FIGURE 15-24 Change in texture and consistency. Nodular (fibrotic) tissue.

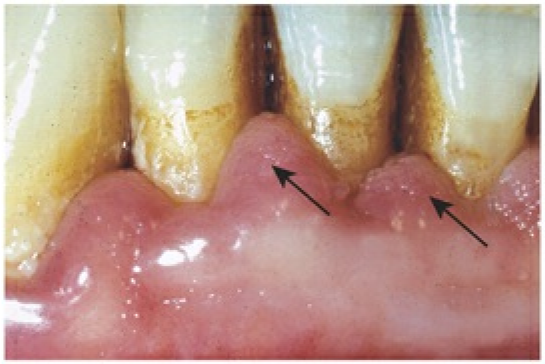


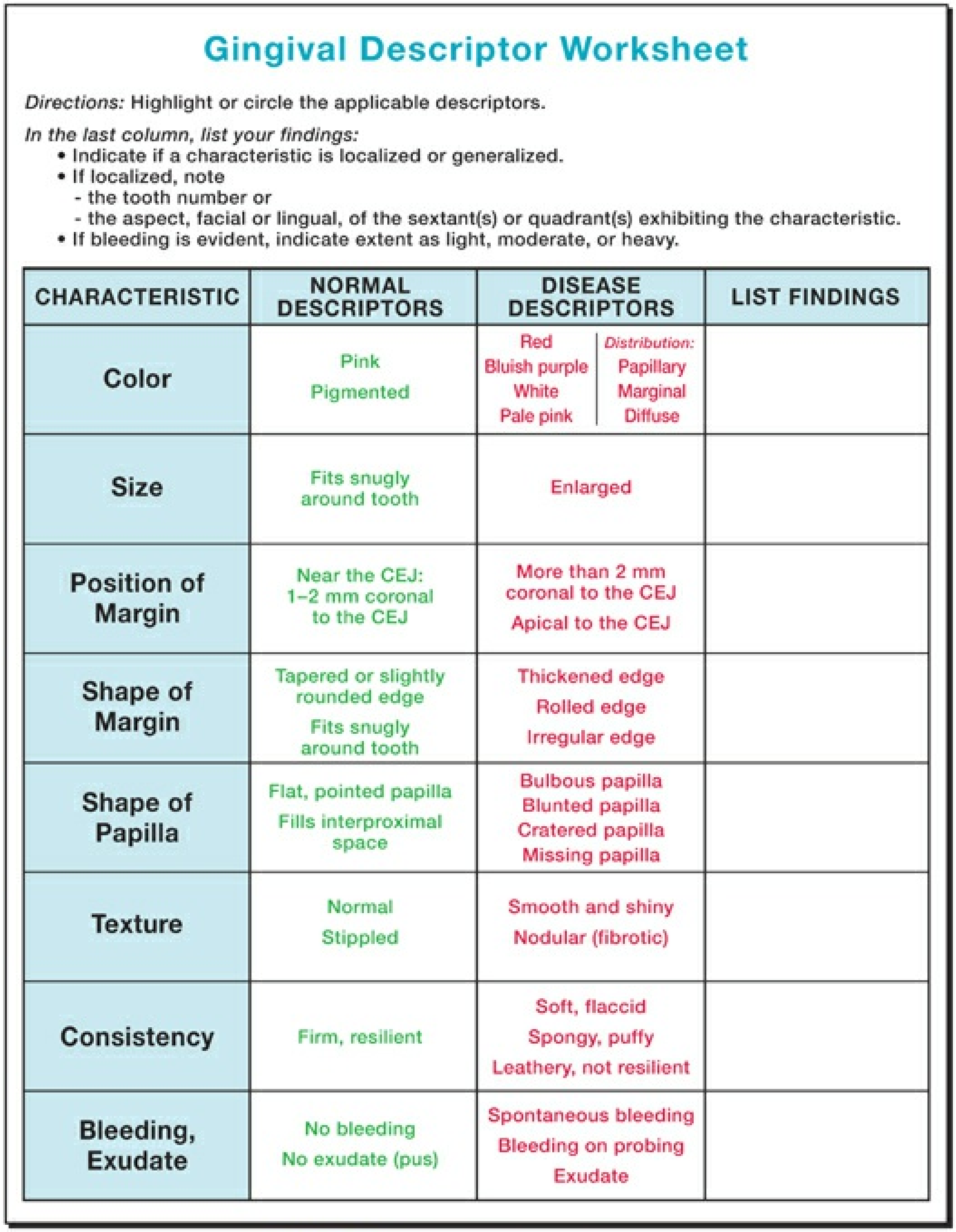
FIGURE 15-25 Change in texture and consistency. Nodular (fibrotic) tissue. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

Procedure 15-1. Determining Gingival Characteristics

Action	Rationale
1. **Choose one sextant and aspect.** Select one sextant of the mouth for assessment; if applicable, choose the sextant that shows the most tissue changes. Select either the facial or lingual aspect of this sextant for examination.	- Focusing your attention on a specific aspect (facial or lingual) of one sextant is more efficient than trying to examine the entire mouth at one time.
2. **Worksheet.** Use the **Gingival Descriptor Worksheet** from the "Ready References" section of this module. Circle or highlight the words that describe the facial or lingual aspect of the sextant. **a.** Assess the color of the tissue. Changes in color may involve only the margin (**marginal**) or the papilla (**papillary**). Changes that involve both the marginal and papillary tissue are indicated as **diffuse**	- The Gingival Descriptor Worksheet is helpful in identifying the gingival characteristics present in the sextant. - Changes in gingival characteristics may be indicators of disease.

color changes. **b.** Assess the size of the tissue. **c.** Assess the position of the gingival margin. **d.** Assess the shape of the margins and papillae in the sextant.	
3. **Examine.** Use compressed air and a periodontal probe to assess the texture and consistency and enter your findings on the worksheet. **a.** Healthy tissue is resilient when pressed lightly with the side (length) of a periodontal probe. **b.** Soft, spongy tissue will retain the shape of the probe for several seconds. **c.** Leathery, nodular tissue is very firm and not resilient when the tissue is pressed lightly with the probe.	• The texture and consistency of the tissue provides important clues about the health of the tissue. Normal tissue is very resilient. Soft spongy tissue may be an indicator of gingivitis. Leathery, nodular tissue may be an indicator of periodontitis.
4. **Observe.** Observe the sextant to check for any areas of spontaneous bleeding. Use a periodontal probe to check	• Bleeding and/or exudate are important indicators of inflammation.

for bleeding upon probing and/or exudate.	
5. **Chart.** Complete a **Gingival Characteristics Chart** from the “Ready References” section of this module. You will need a red/blue pencil and a yellow highlighter to complete this chart. You will be entering information for the same sextant and aspect selected for the Gingival Descriptor Worksheet. **a.** Draw the location of the gingival margin on the chart. **b.** Indicate areas of gingival recession with the yellow highlighter. **c.** Enter gingival margin findings in red pencil at the root apices. **d.** Enter papillae findings in blue pencil between the teeth near the root area.	• The Gingival Characteristics Chart is helpful in identifying the gingival characteristics present in the sextant. • Changes in gingival characteristics may be indicators of disease.



Gingival Descriptor Worksheet

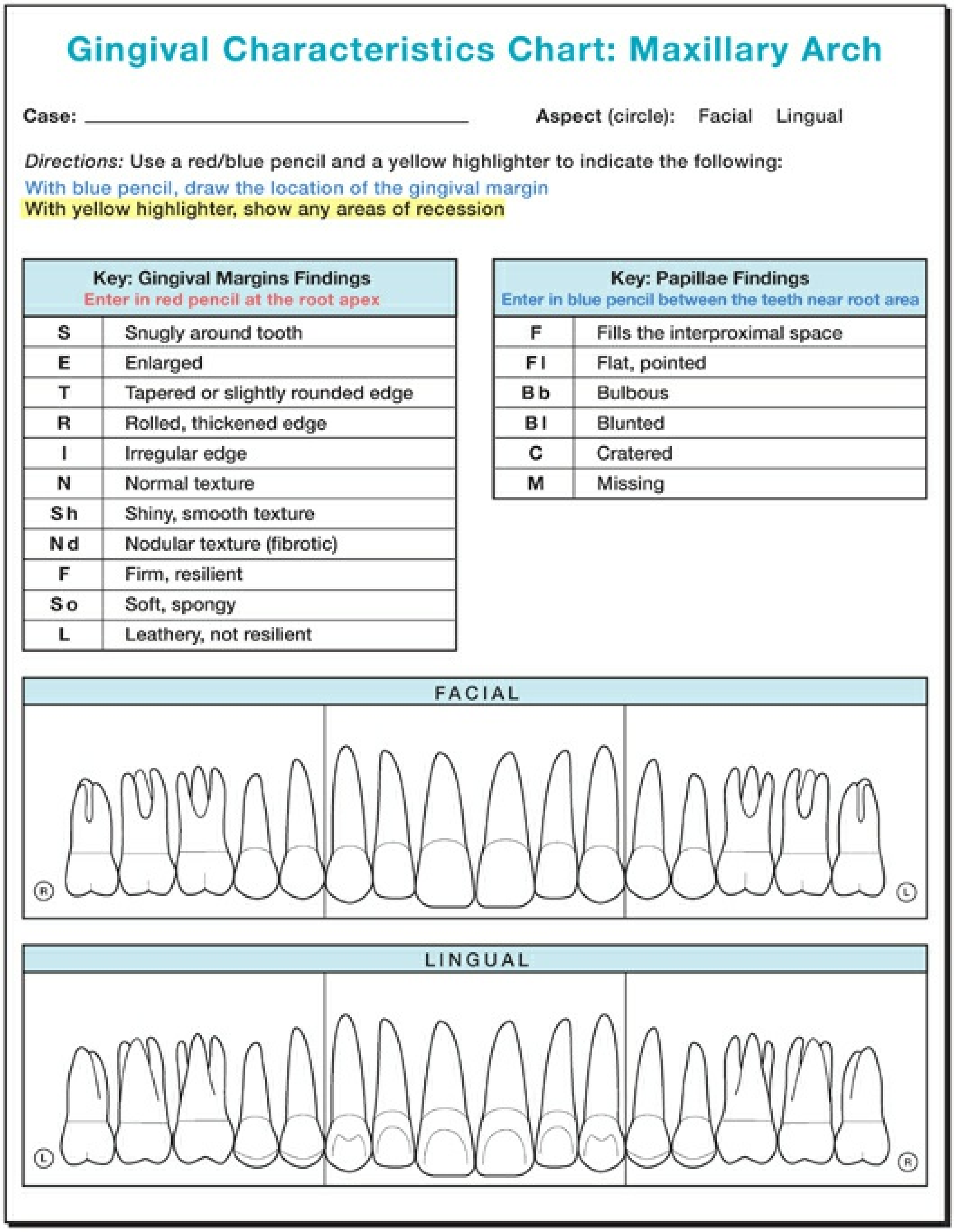
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:

- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-26 **Gingival Descriptor Worksheet.**



Gingival Characteristics Chart: Maxillary Arch

Case: ______________________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:

With blue pencil, draw the location of the gingival margin

With yellow highlighter, show any areas of recession

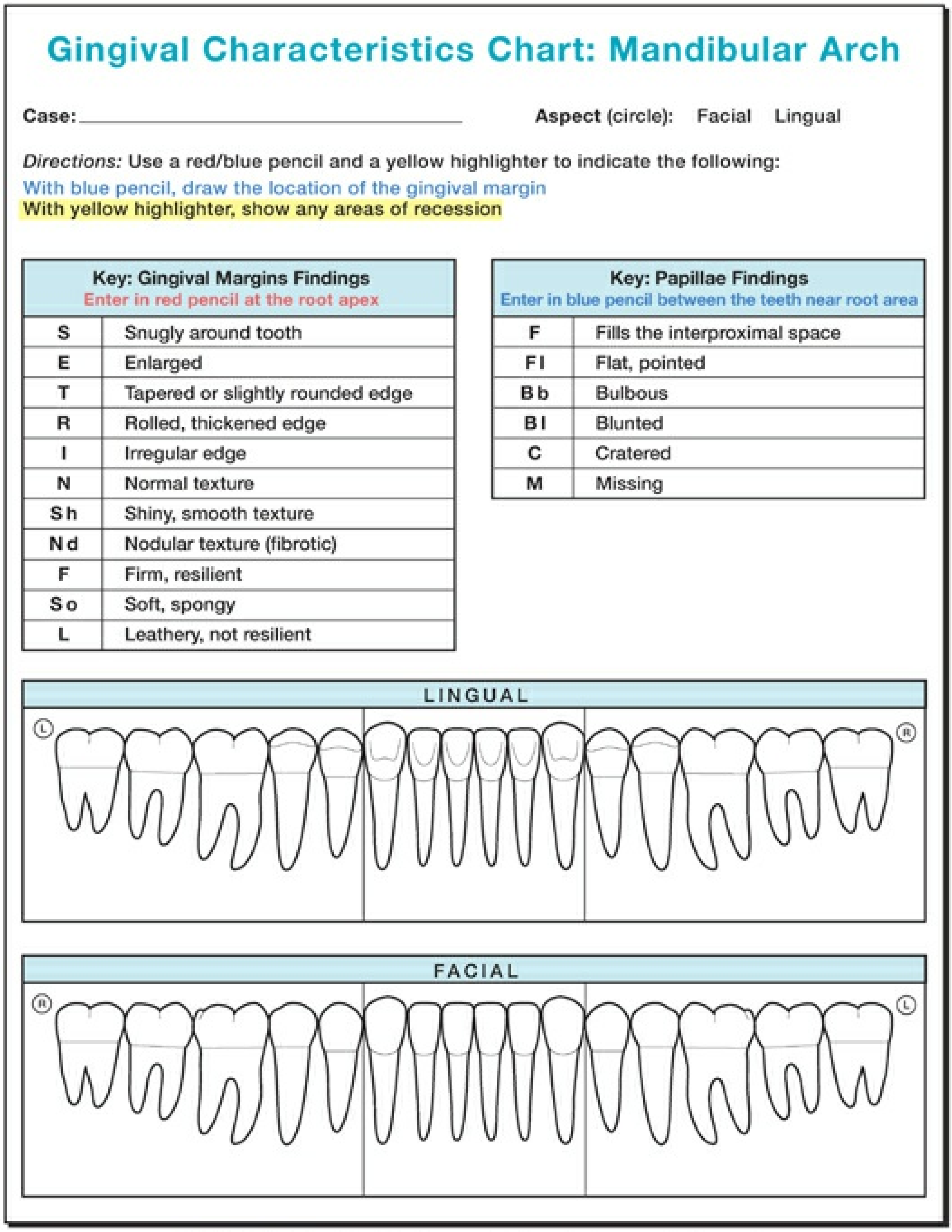
Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

FACIAL

LINGUAL

FIGURE 15-27 Gingival characteristics chart: maxillary arch.



Gingival Characteristics Chart: Mandibular Arch

Case: ______________________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:

With blue pencil, draw the location of the gingival margin

With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

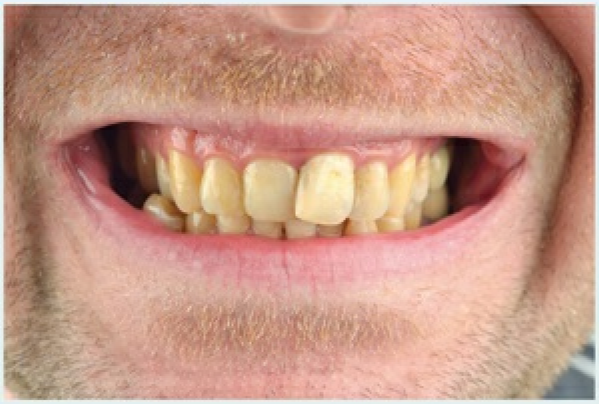
Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

FIGURE 15-28 Gingival characteristics chart: mandibular arch.

SECTION 4 • The Human Element

Through the Eyes of a Student

GINGIVAL DESCRIPTION: PAINTING AN ACCURATE DESCRIPTION



I was seeing, Mr. L., a patient who I had seen 6 months ago. Before starting to write up a gingival description, I looked at the one I had done 6 months ago. Since the last time, we have covered gingival descriptors more in class. I realized that I now knew many more gingival descriptors and what they meant and how to use them.

The gingival description from 6 months ago did not paint a very accurate picture of Mr. L.'s gingiva. I realized my description from last time would not be of any help today. Using the correct gingival descriptors, I wrote a description that really put into words what the gingival tissue looks like. At this moment, I realized for the first time how much I learned in 6 months and how much better I understood the appearance of the gingiva. I really felt proud of myself at that moment.

Kim, student,
South Florida Community College

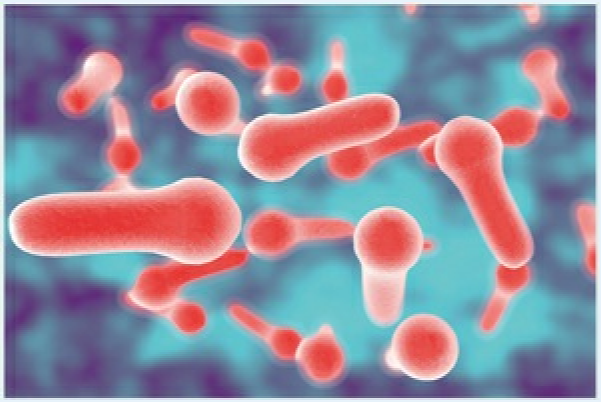
EXPRESSING YOUR OPINION

Think about a time when you expressed your opinion and were glad you did.
Think about a time when you expressed your opinion and regretted it.
Think about a time when you did not share your opinion and regretted it.

Participate in a class discussion on what you learned from these experiences that can apply to your professional interactions with patients.

Ethical Dilemma

COLLEAGUE WITH POOR INFECTION CONTROL PRACTICES



For the past 6 months, you have been working as a part-time dental hygienist for a dental group practice. Unfortunately, you have developed concerns about the quality of some of the dental care being delivered by the periodontist who is a member of the group practice. Your specific concerns about the quality of care center around apparent poor infection control procedures.

You have just finished seeing a new patient in the group practice, Mrs. Eliza Stuart. Mrs. Stuart is a 35-year-old homemaker who smokes one pack of cigarettes a day and has recently been diagnosed with type 2 diabetes. Mrs. Stuart has a 22-month-old daughter and has just found out that she is 8 weeks pregnant with her second child.

Although Mrs. Stuart denies any oral discomfort, her dental examination reveals many oral problems such as probing depths up to 7 mm, generalized alveolar bone loss on her posterior teeth, severe dental caries on several molar teeth, and multiple sites of moderate-to-severe gingival inflammation along with other signs of gingival inflammation including bleeding on probing. Based on your clinical observations, you suspect that Mrs. Stuart has chronic periodontitis.

Routine office policy dictates that Mrs. Stuart should be scheduled with the group practice periodontist. However, you are uncomfortable making the referral based on your concerns about infection control practices by the periodontist. You are conflicted about how to proceed with Eliza's treatment.

1. What ethical principles are in conflict in this dilemma?
2. How do you inform/educate Eliza about her oral/general health?
3. How should you handle future referrals to the periodontist in your office?

English-to-Spanish Phrase List

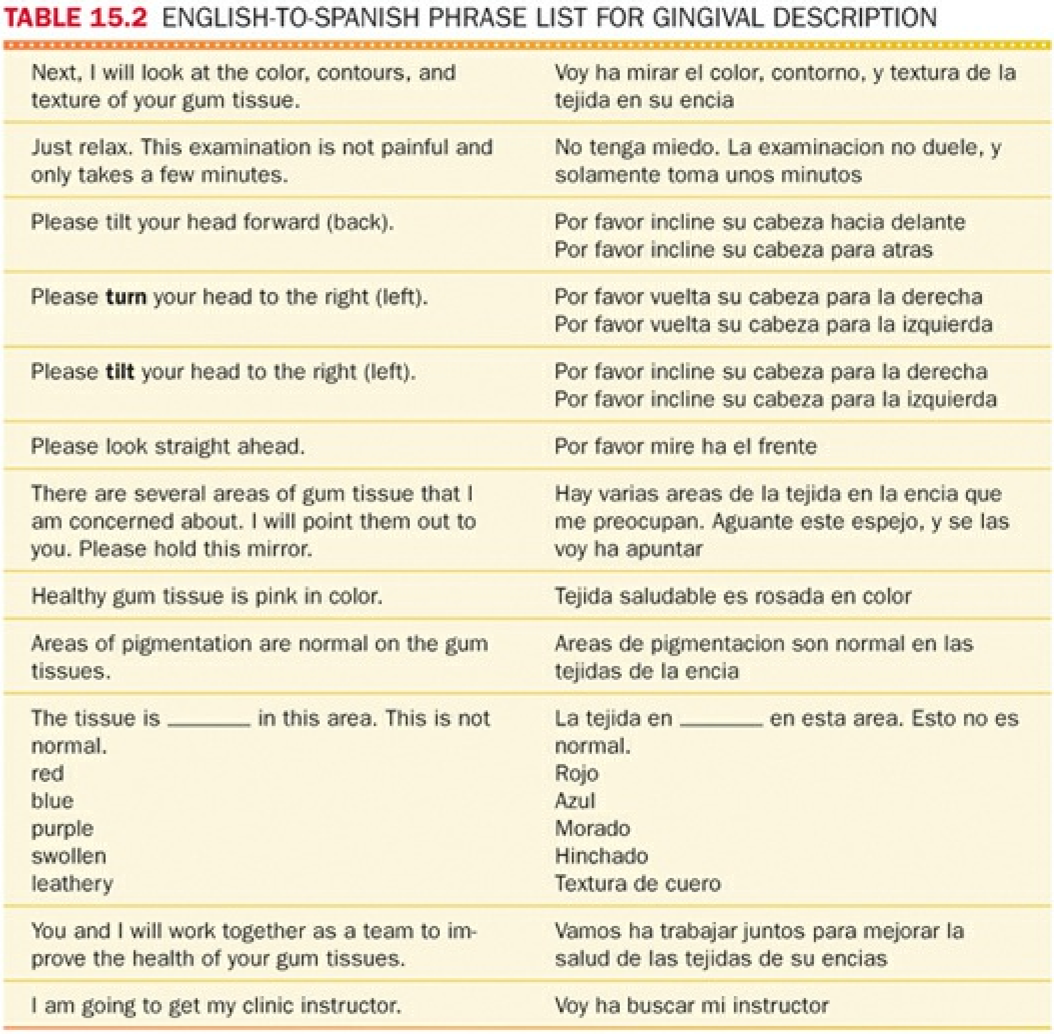


TABLE 15.2 ENGLISH-TO-SPANISH PHRASE LIST FOR GINGIVAL DESCRIPTION

Next, I will look at the color, contours, and texture of your gum tissue.	Voy ha mirar el color, contorno, y textura de la tejida en su encia
Just relax. This examination is not painful and only takes a few minutes.	No tenga miedo. La examinacion no duele, y solamente toma unos minutos
Please tilt your head forward (back).	Por favor incline su cabeza hacia delante Por favor incline su cabeza para atras
Please **turn** your head to the right (left).	Por favor vuelta su cabeza para la derecha Por favor vuelta su cabeza para la izquierda
Please **tilt** your head to the right (left).	Por favor incline su cabeza para la derecha Por favor incline su cabeza para la izquierda
Please look straight ahead.	Por favor mire ha el frente
There are several areas of gum tissue that I am concerned about. I will point them out to you. Please hold this mirror.	Hay varias areas de la tejida en la encia que me preocupan. Aguante este espejo, y se las voy ha apuntar
Healthy gum tissue is pink in color.	Tejida saludable es rosada en color
Areas of pigmentation are normal on the gum tissues.	Areas de pigmentacion son normal en las tejidas de la encia
The tissue is ______ in this area. This is not normal. red blue purple swollen leathery	La tejida en ______ en esta area. Esto no es normal. Rojo Azul Morado Hinchado Textura de cuero
You and I will work together as a team to improve the health of your gum tissues.	Vamos ha trabajar juntos para mejorar la salud de las tejidas de su encias
I am going to get my clinic instructor.	Voy ha buscar mi instructor

SECTION 5 • Practical Focus—Fictitious Patient Cases

DIRECTIONS

- Use the steps outlined in Procedure 15-1, the Gingival Descriptor Worksheet, and Gingival Characteristics Chart to develop descriptions for each of the patient cases. Examples of completed forms are shown on the following pages.
- In thinking about the health status of the gingival tissues in this module, you should take into account the health history and over-the-counter/prescription drug information that were revealed for each patient in previous modules. For each patient, answer the question, “Is there any

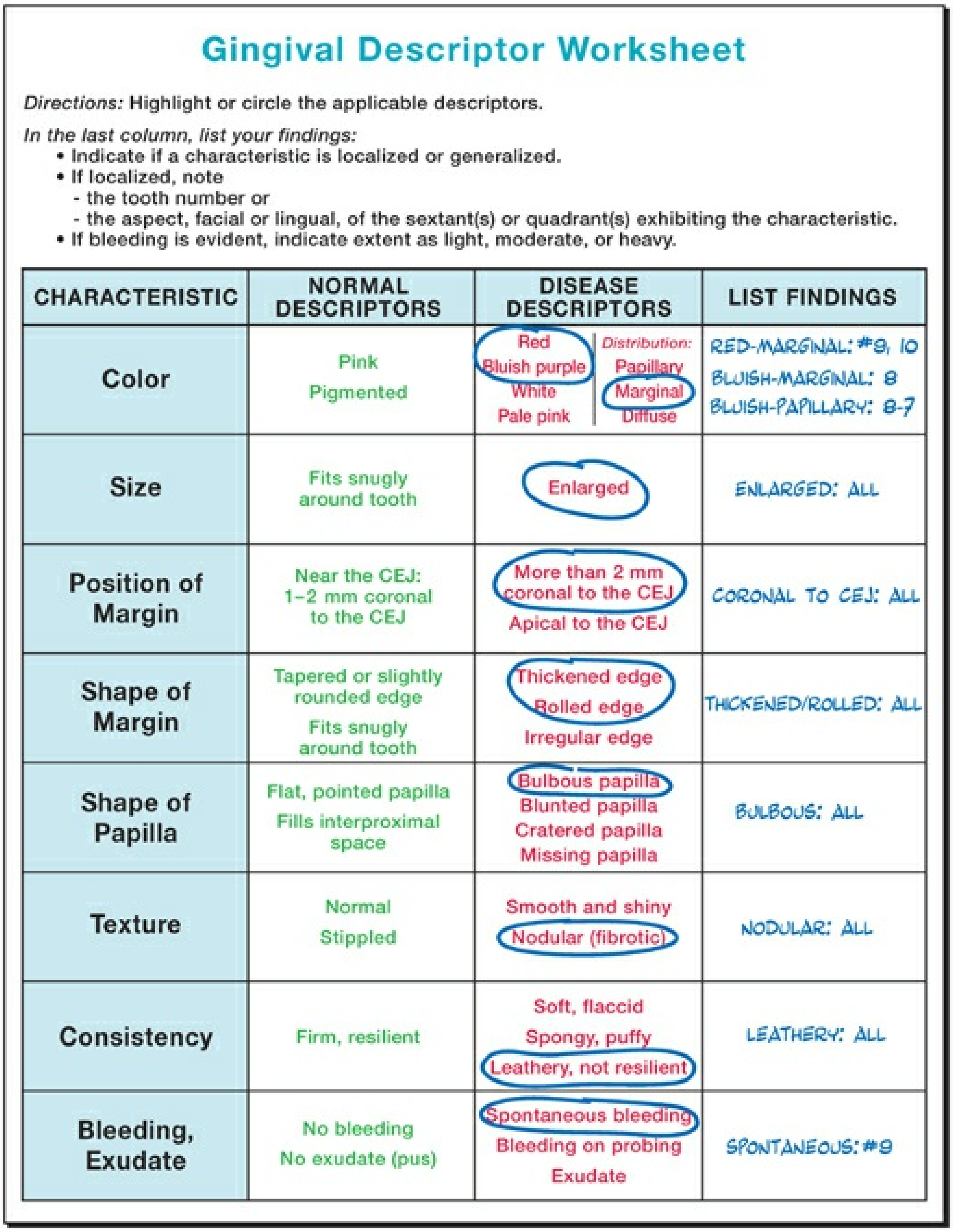
connection between the gingival characteristics observed and the patient's health history or drug information?"

- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.
- **Note:** The clinical photographs in a fictitious patient case are for illustrative purposes but are not necessarily from the same individual. The fictitious patient cases are designed to enhance the learning experiences associated with each case.

Sources of Clinical Photographs

The author gratefully acknowledges the sources of the following clinical photographs in the "Practical Focus" sections of this module.

- Figure 15-31. Courtesy of Dr. Don Rolfs, Wenatchee, WA.
- Figure 15-34. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 15-37. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 15-40. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 15-43. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.



Gingival Descriptor Worksheet

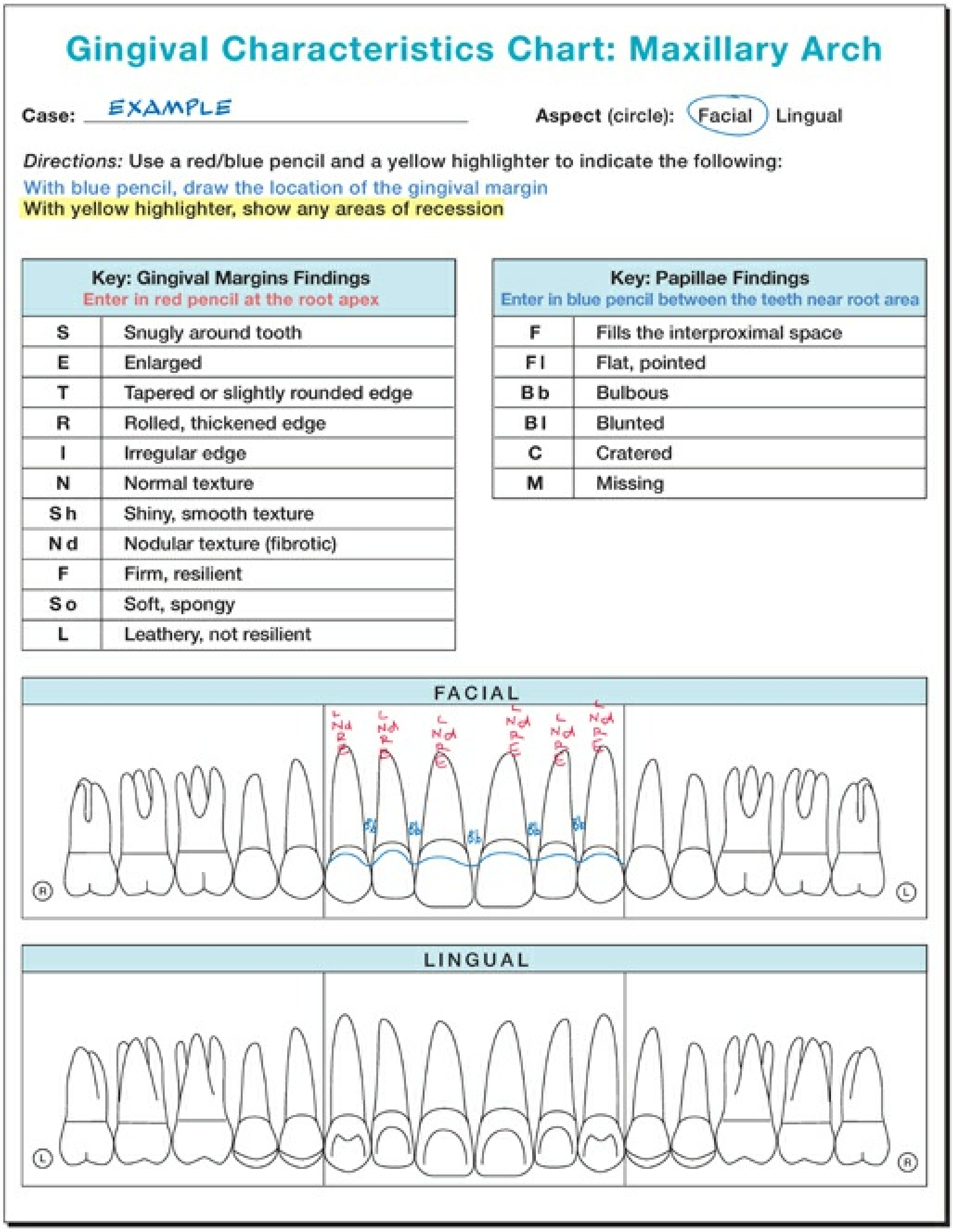
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:

- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	[✓ Red] [✓ Bluish purple] White Pale pink *Distribution:* Papillary [✓ Marginal] Diffuse	RED-MARGINAL: #9, 10 BLUISH-MARGINAL: 8 BLUISH-PAPILLARY: 8-7
Size	Fits snugly around tooth	[✓ Enlarged]	ENLARGED: ALL
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	[✓ More than 2 mm coronal to the CEJ] Apical to the CEJ	CORONAL TO CEJ: ALL
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	[✓ Thickened edge] [✓ Rolled edge] Irregular edge	THICKENED/ROLLED: ALL
Shape of Papilla	Flat, pointed papilla Fills interproximal space	[✓ Bulbous papilla] Blunted papilla Cratered papilla Missing papilla	BULBOUS: ALL
Texture	Normal Stippled	Smooth and shiny [✓ Nodular (fibrotic)]	NODULAR: ALL
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy [✓ Leathery, not resilient]	LEATHERY: ALL
Bleeding, Exudate	No bleeding No exudate (pus)	[✓ Spontaneous bleeding] Bleeding on probing Exudate	SPONTANEOUS: #9

FIGURE 15-29 Example of completed worksheet. This example shows a completed gingival descriptor worksheet for fictitious patient Z.



Gingival Characteristics Chart: Maxillary Arch

Case: EXAMPLE

Aspect (circle): [✓ Facial] Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:

With blue pencil, draw the location of the gingival margin

With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

FIGURE 15-30 **Example of completed chart.** This example shows a completed gingival characteristics chart for fictitious patient Z.

Fictitious Patient Case A: Mr. Alan Ascari

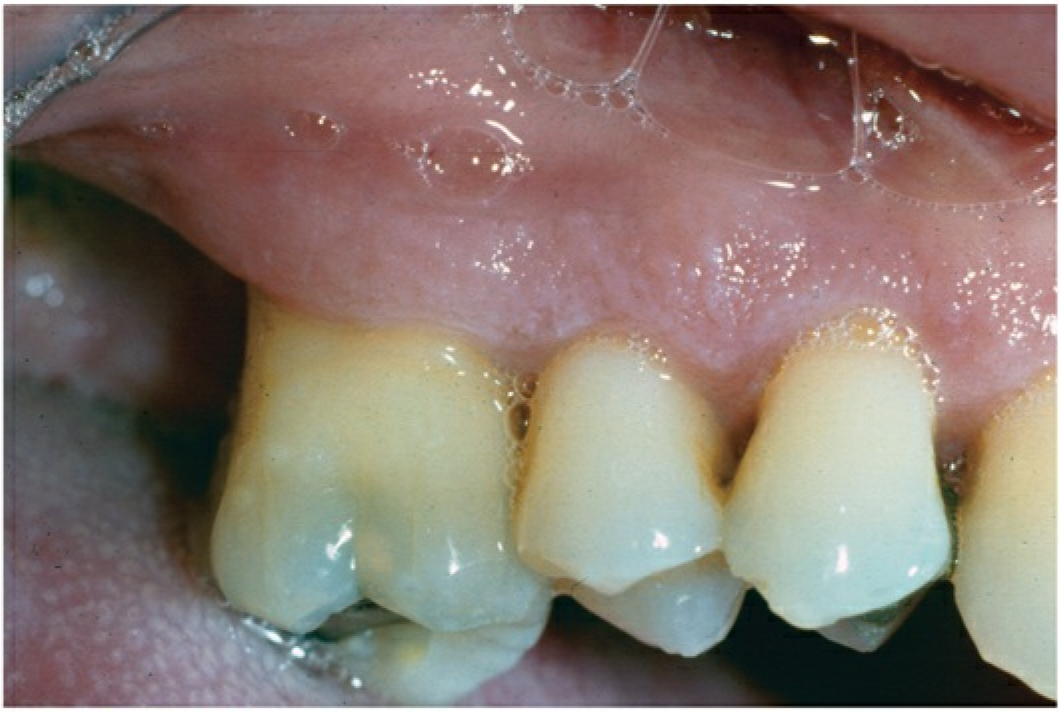
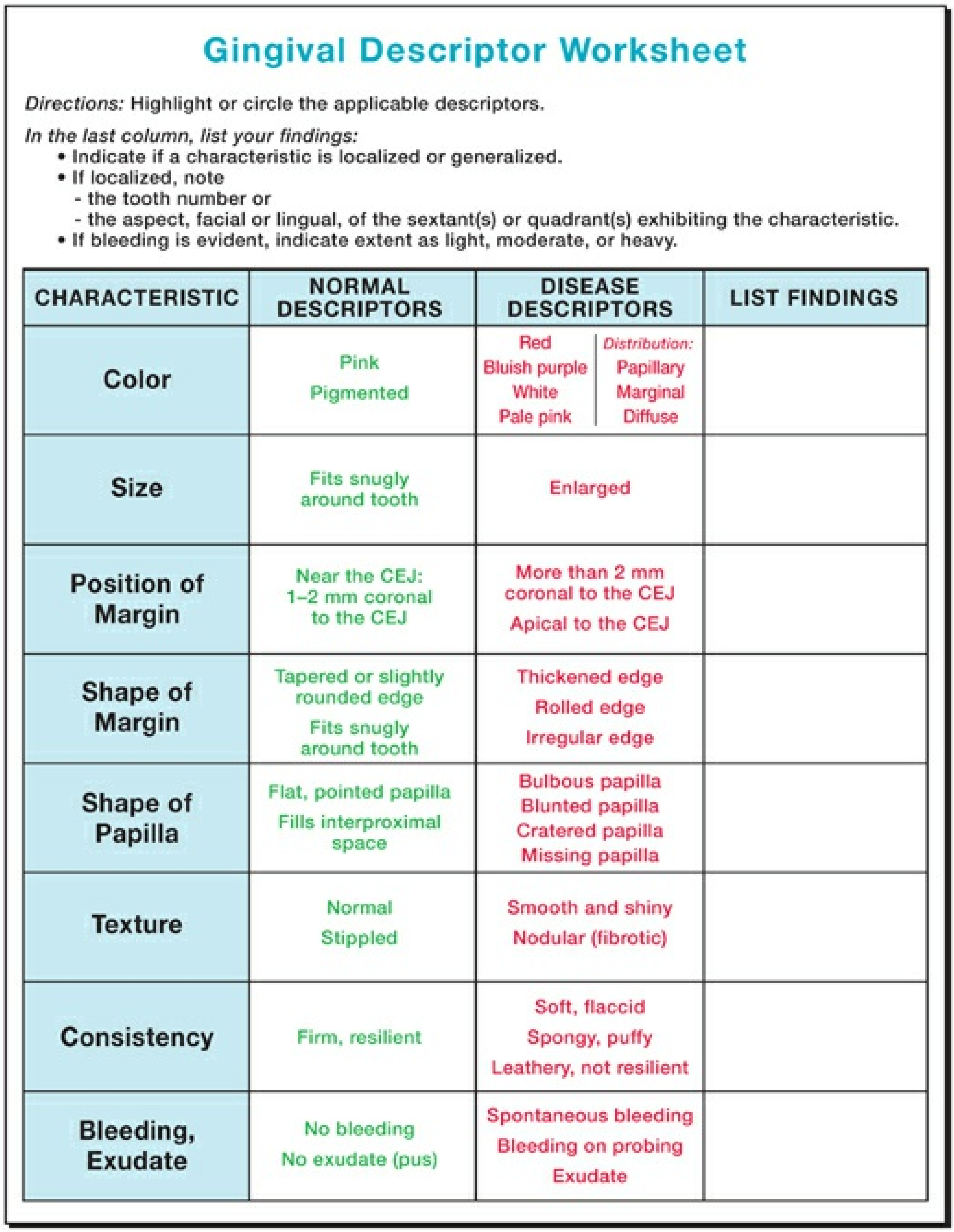


FIGURE 15-31 Maxillary right posterior sextant, facial aspect for Mr. Ascari.

Indicate any connection between the gingival characteristics observed and the patient's health history or drug information:



Gingival Descriptor Worksheet

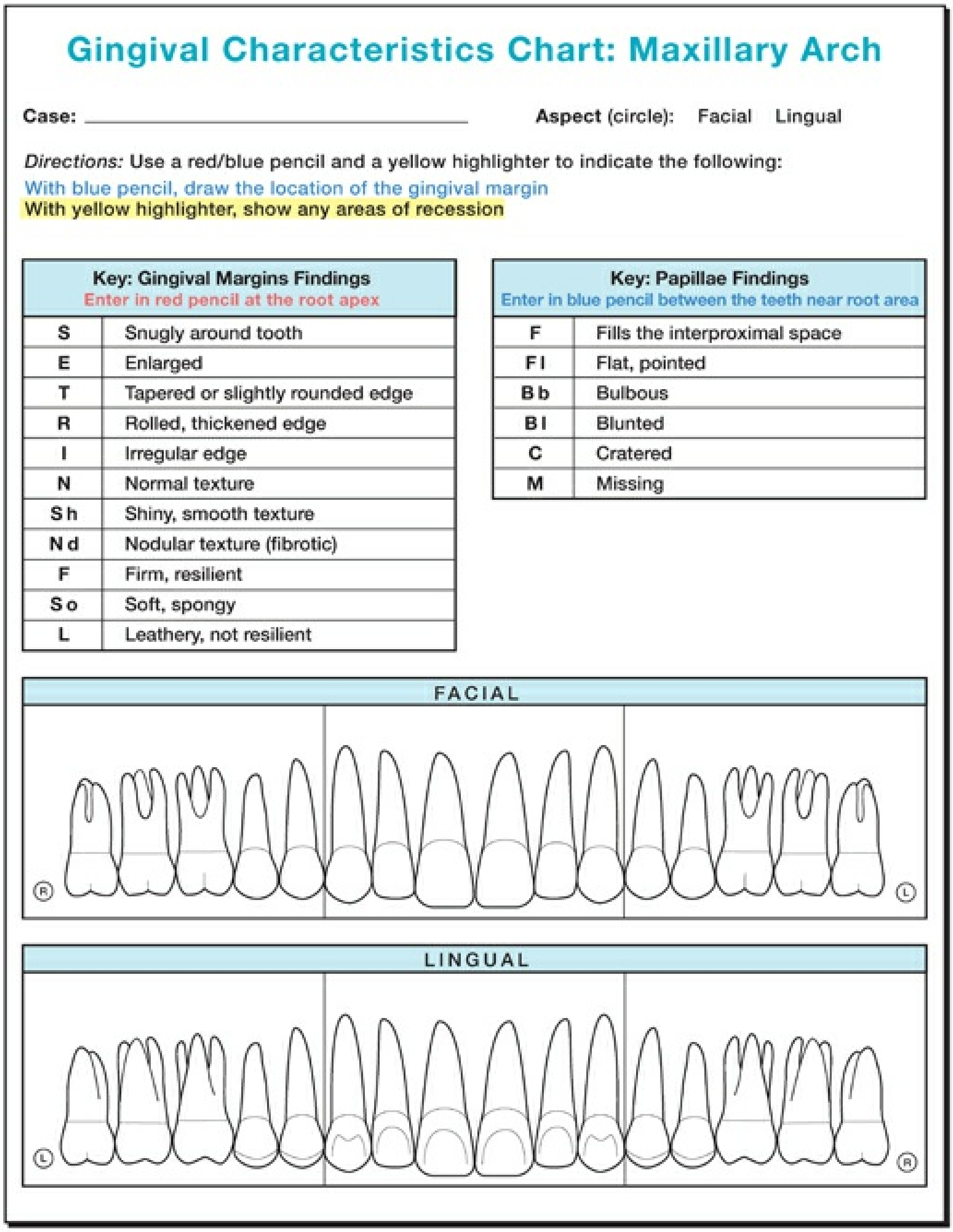
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:

- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-32 Gingival Descriptor Worksheet for Mr. Ascari: maxillary right posterior sextant, facial aspect.



Gingival Characteristics Chart: Maxillary Arch

Case: ______________________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:

With blue pencil, draw the location of the gingival margin

With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

FACIAL

LINGUAL

FIGURE 15-33 Gingival Characteristics Chart for Mr. Ascari: maxillary right posterior sextant, facial aspect.

Fictitious Patient Case B: Bethany Biddle

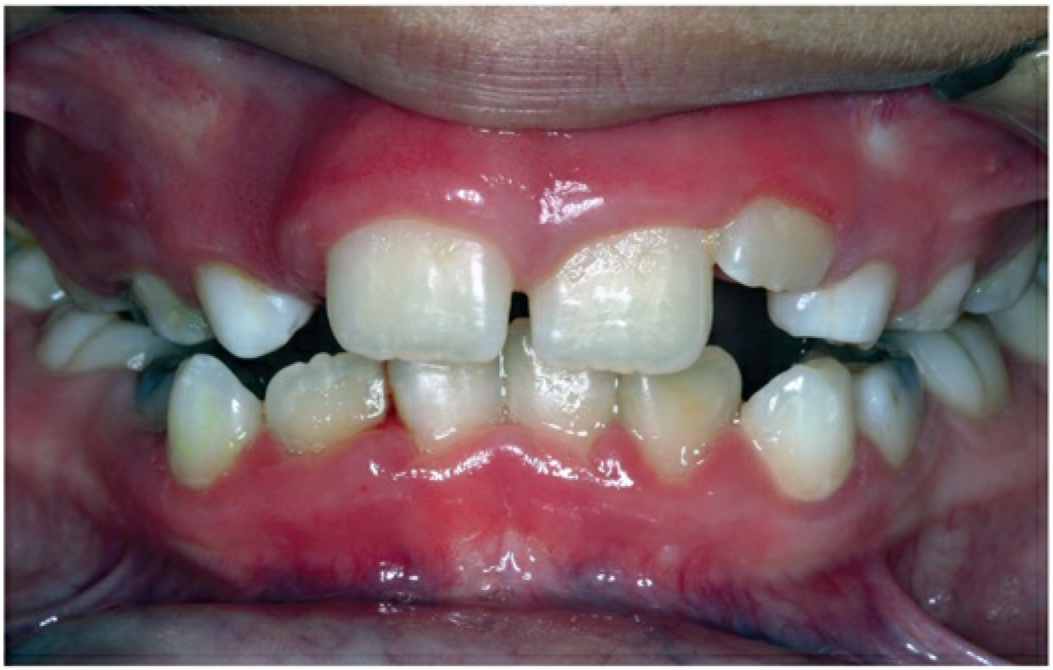
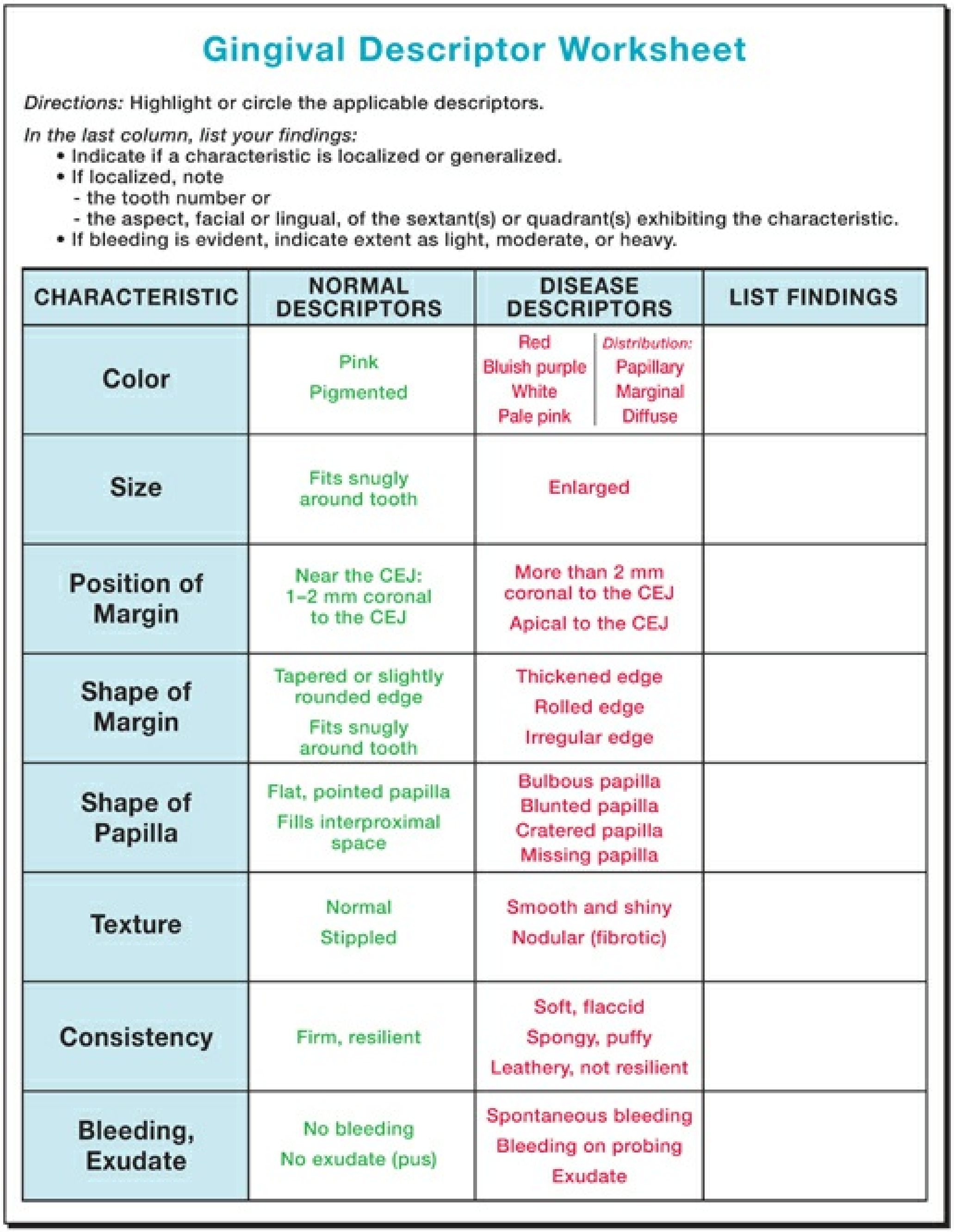


FIGURE 15-34 Facial aspect, mandibular anterior sextant for Bethany Biddle.

Indicate any connection between the gingival characteristics observed and the patient’s health history or drug information:



Gingival Descriptor Worksheet

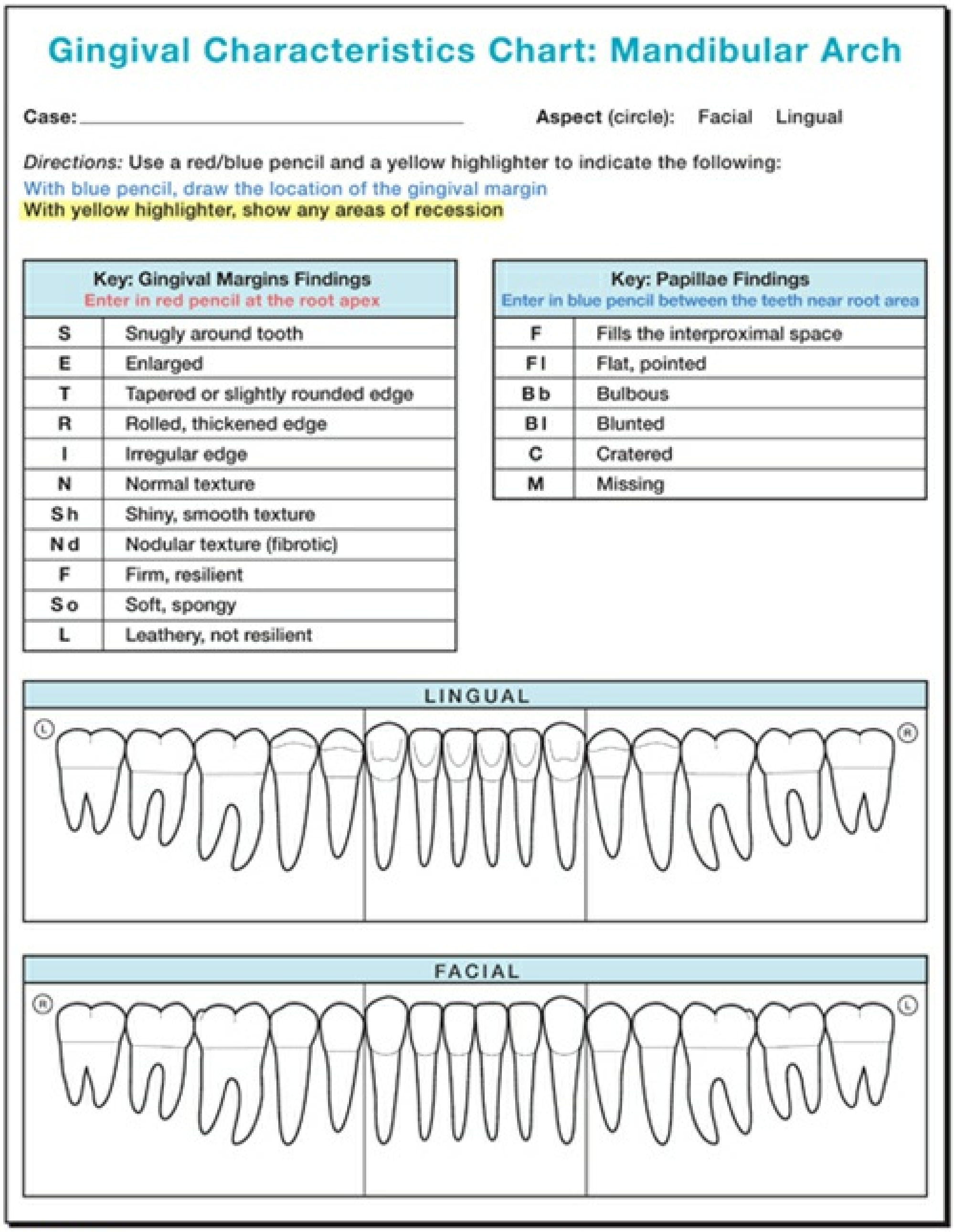
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:
- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-35 Gingival Descriptor Worksheet for Bethany Biddle: mandibular anterior sextant, facial aspect.

DIRECTIONS: To use the Gingival Characteristics Chart for a patient with a mixed dentition, enter the letter of the primary tooth on the crown of the permanent tooth and cross out any missing teeth.



Gingival Characteristics Chart: Mandibular Arch

Case: ______________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:

With blue pencil, draw the location of the gingival margin

With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

LINGUAL

FACIAL

FIGURE 15-36 Gingival Characteristics Chart for Bethany Biddle: mandibular anterior sextant, facial aspect.

Fictitious Patient Case C: Mr. Carlos Chavez

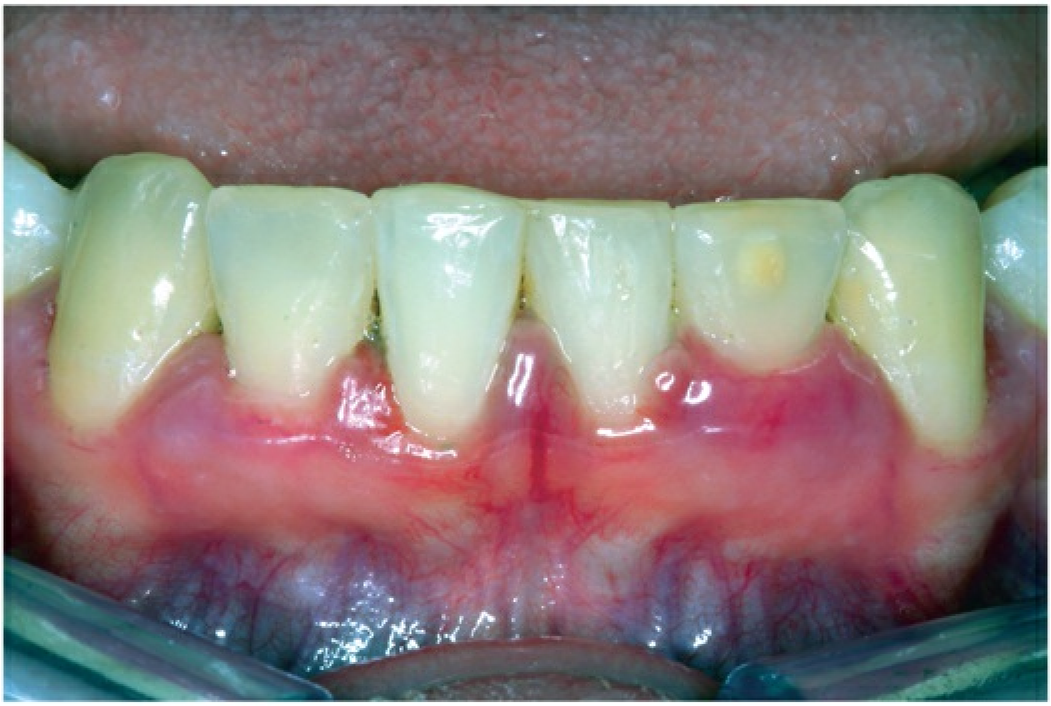
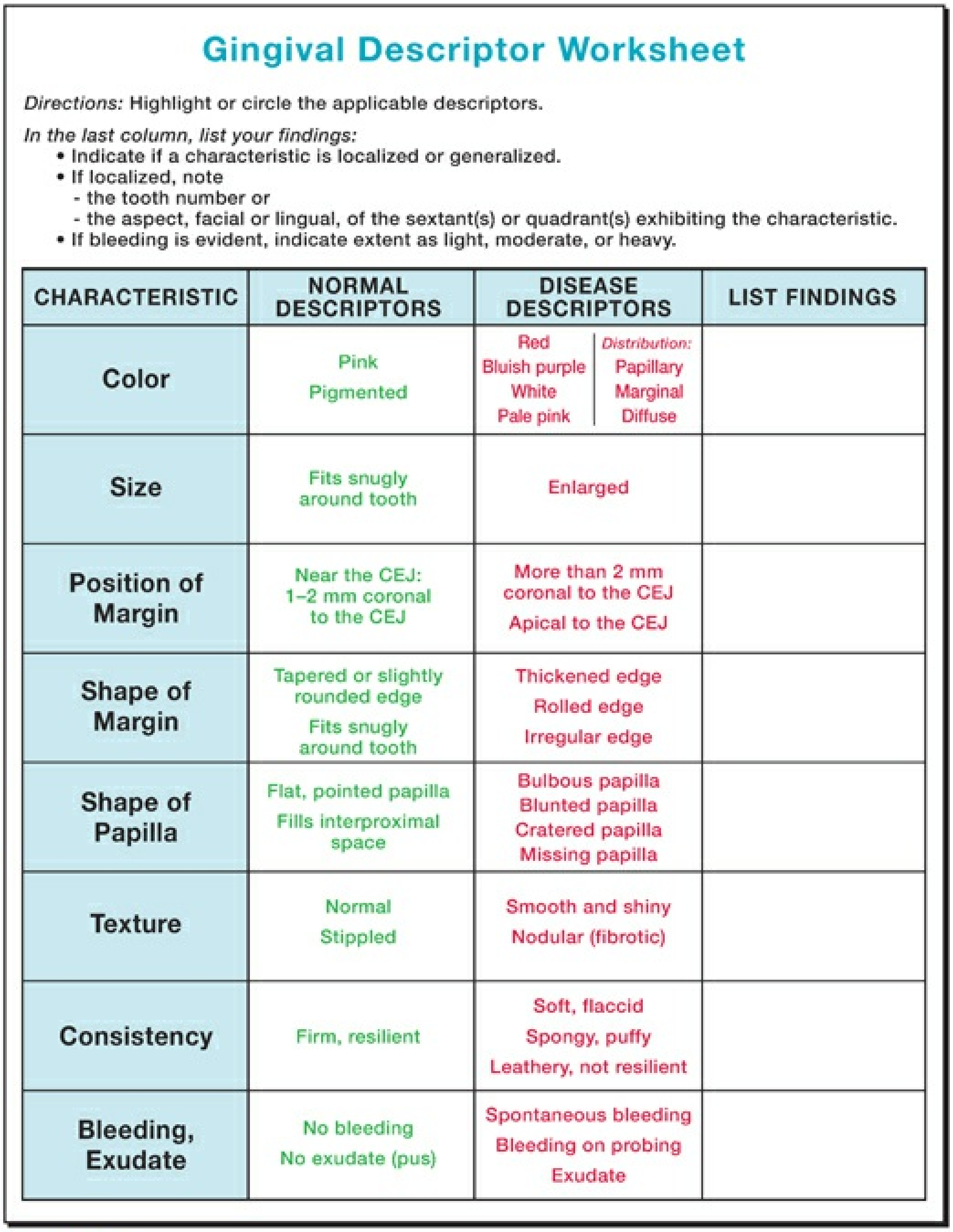


FIGURE 15-37 Facial aspect, mandibular anterior sextant for Mr. Chavez.

Indicate any connection between the gingival characteristics observed and the patient's health history or drug information:



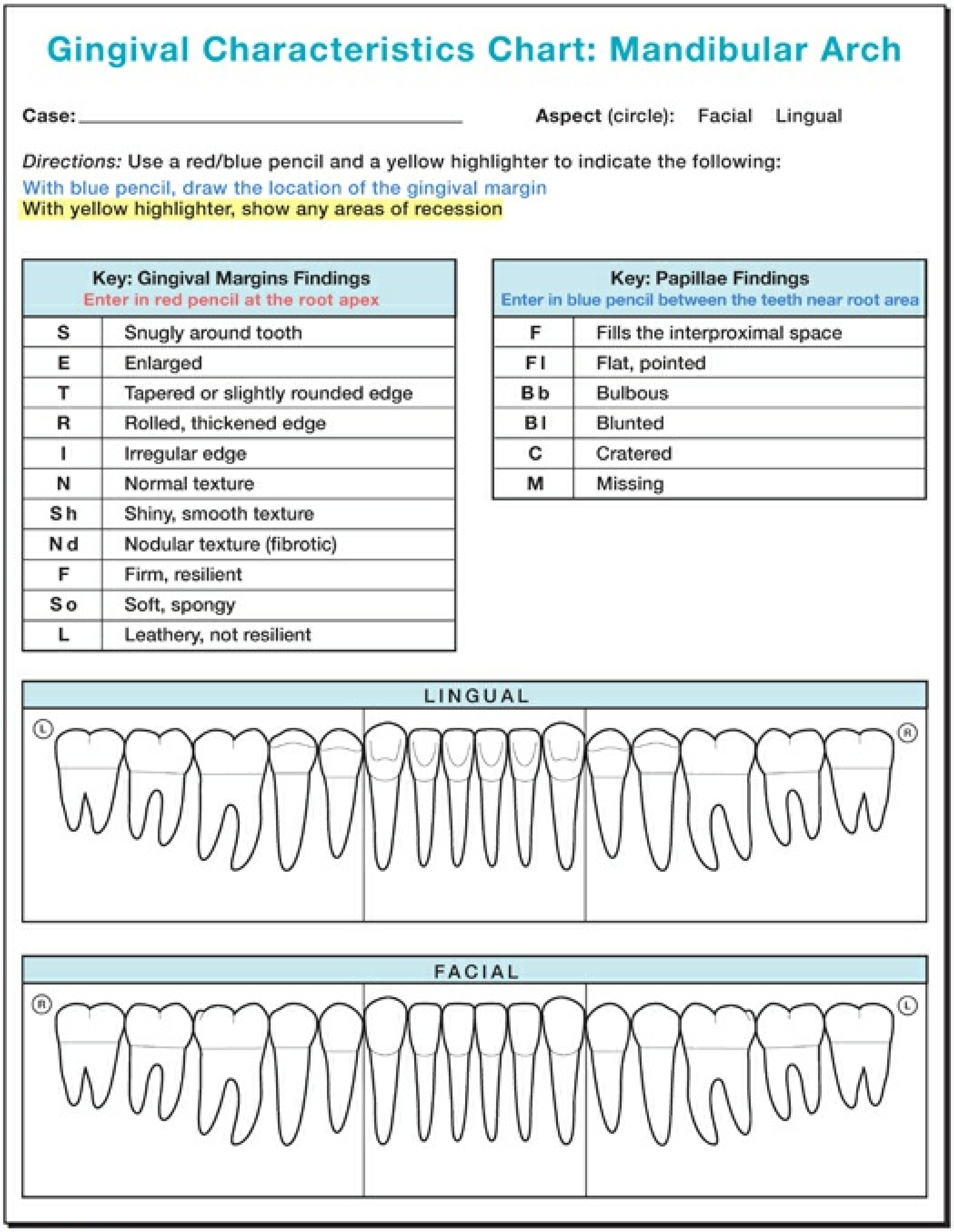
Gingival Descriptor Worksheet

Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:
- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-38 Gingival Descriptor Worksheet for Mr. Chavez: mandibular anterior sextant, facial aspect.



Gingival Characteristics Chart: Mandibular Arch

Case: ____________________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:
With blue pencil, draw the location of the gingival margin
With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

LINGUAL

FACIAL

FIGURE 15-39 Gingival Characteristic Chart for Mr. Chavez: mandibular anterior sextant, facial aspect.

Fictitious Patient Case D: Mrs. Donna Doi

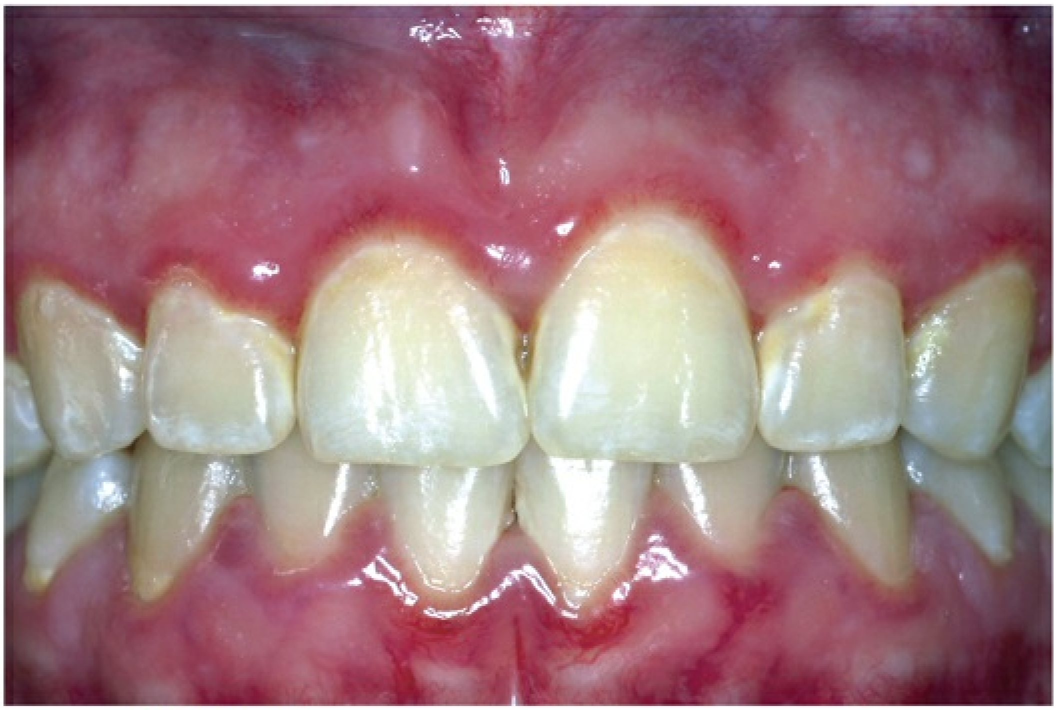
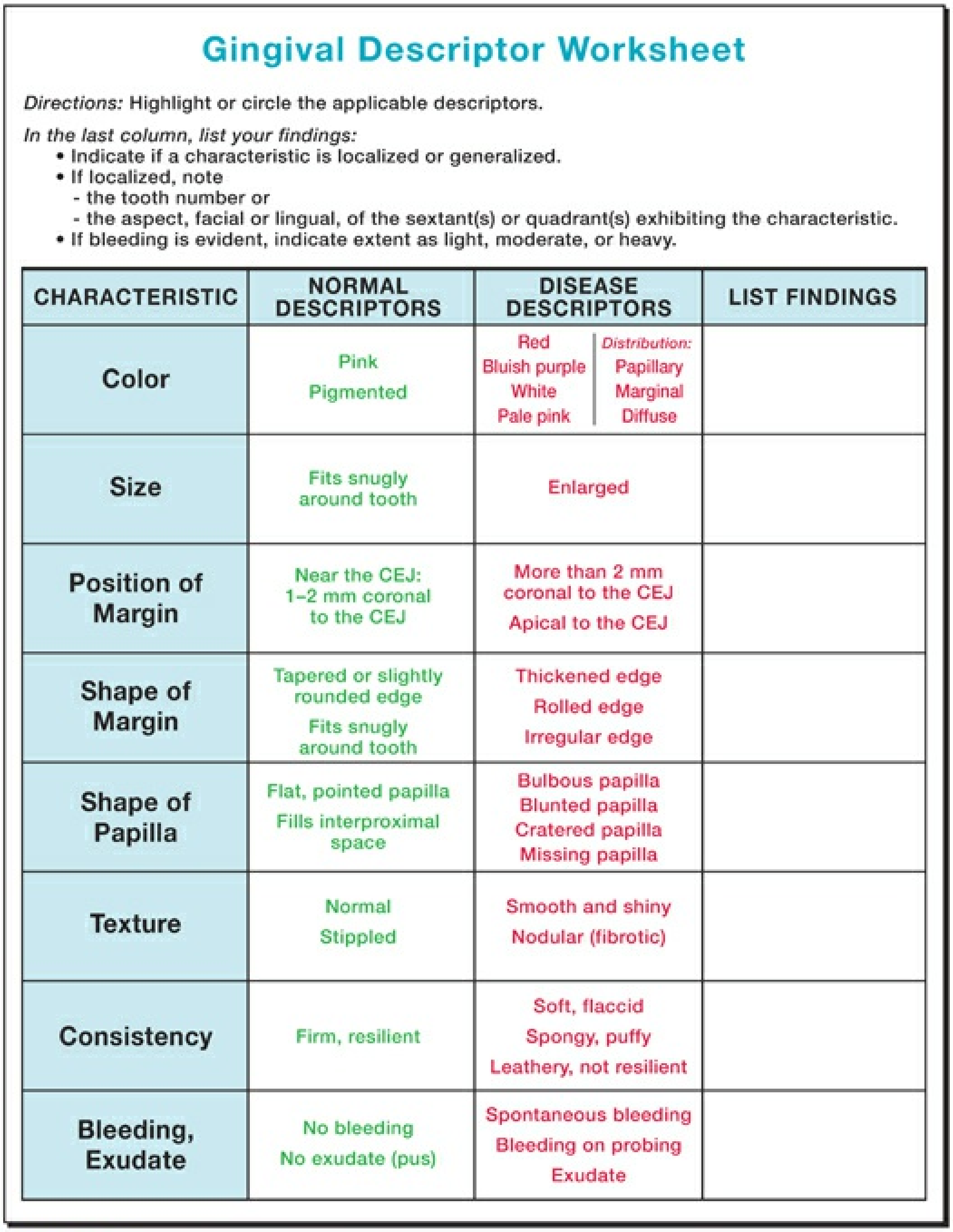


FIGURE 15-40 Facial aspect, maxillary anterior sextant for Mrs. Doi.

Indicate any connection between the gingival characteristics observed and the patient's health history or drug information:



Gingival Descriptor Worksheet

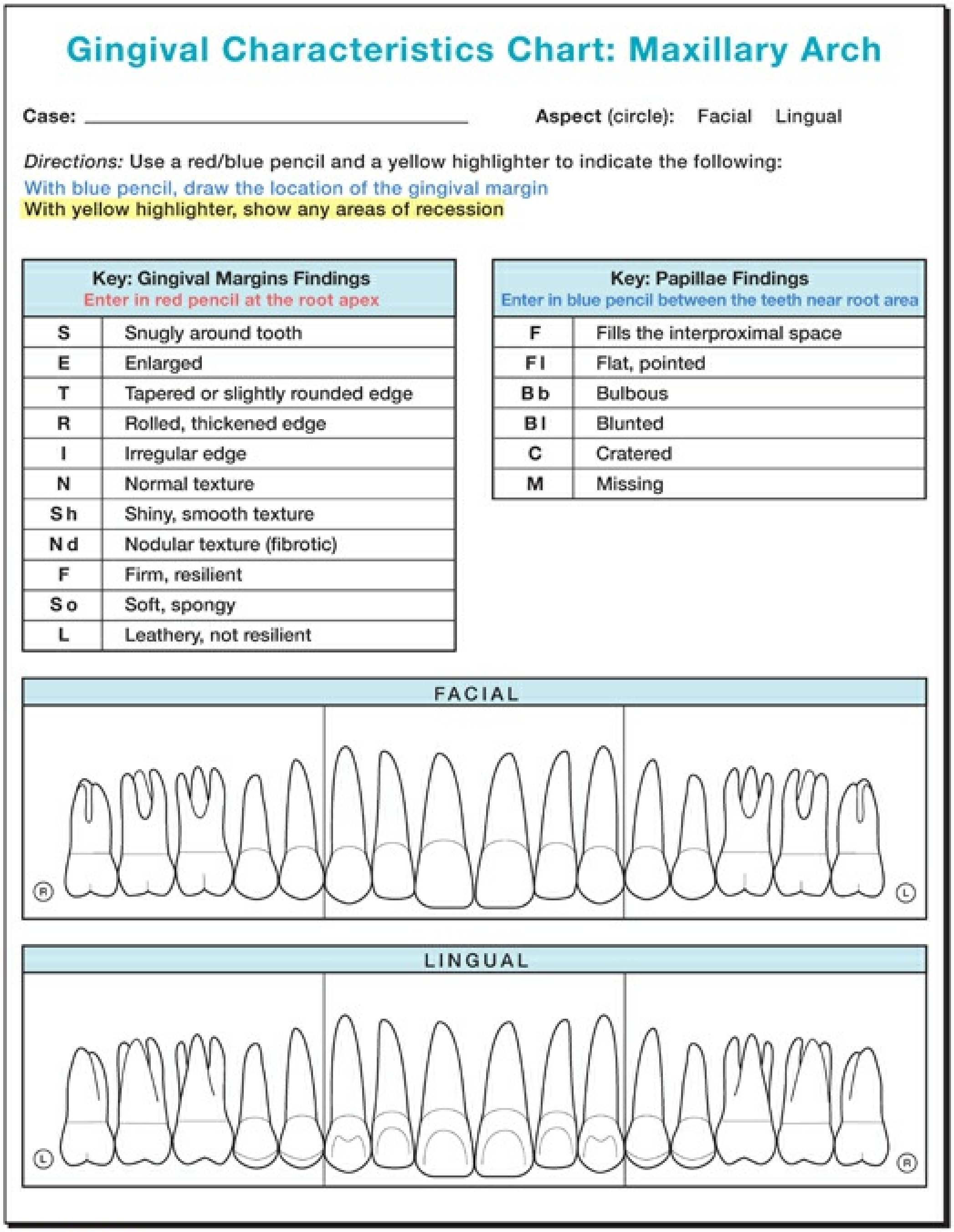
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:

- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-41 Gingival Descriptor Worksheet for Mrs. Doi: maxillary anterior sextant, facial aspect.



Gingival Characteristics Chart: Maxillary Arch

Case: ______________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:
With blue pencil, draw the location of the gingival margin
With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

FIGURE 15-42 Gingival Characteristics Chart for Mrs. Doi: maxillary anterior sextant, facial aspect.

Fictitious Patient Case E: Ms. Esther Eads

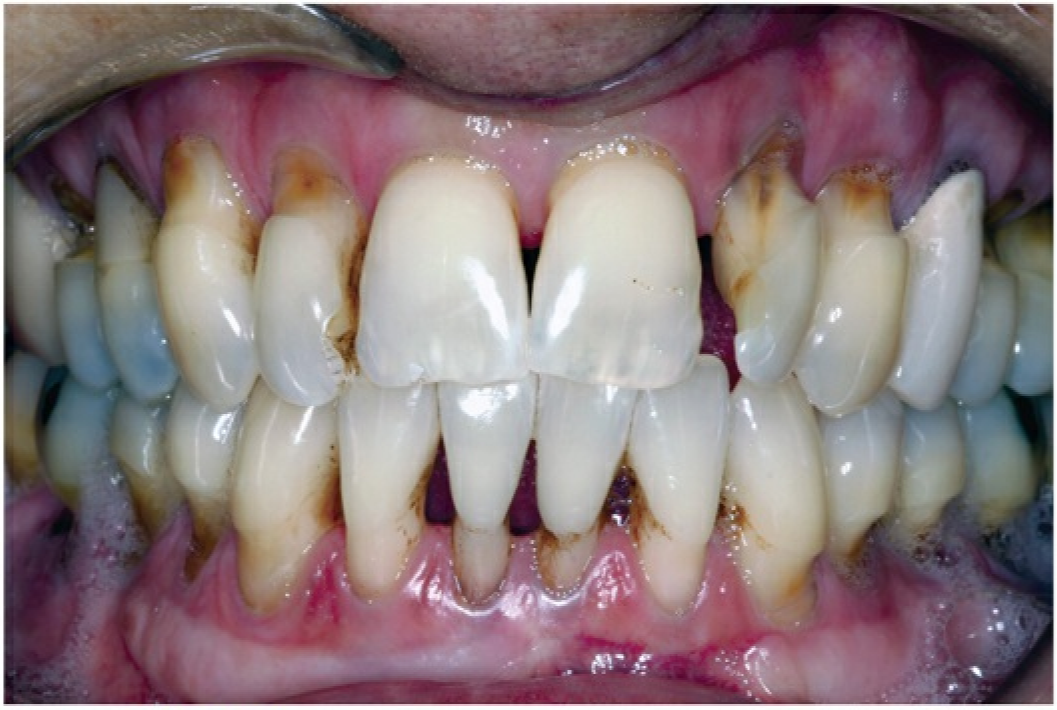
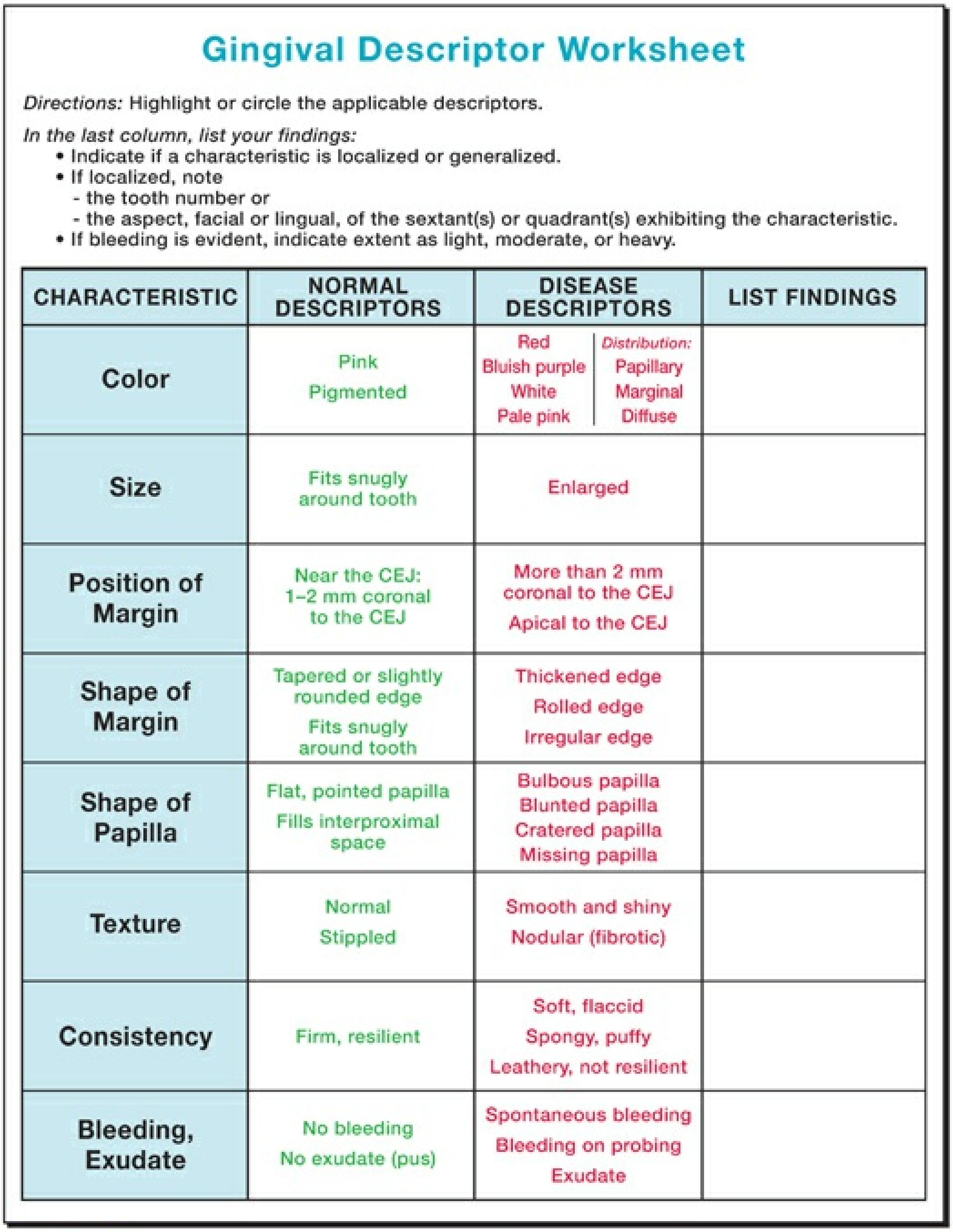


FIGURE 15-43 Facial aspect, mandibular anterior sextant for Ms. Eads.

Indicate any connection between the gingival characteristics observed and the patient's health history or drug information:



Gingival Descriptor Worksheet

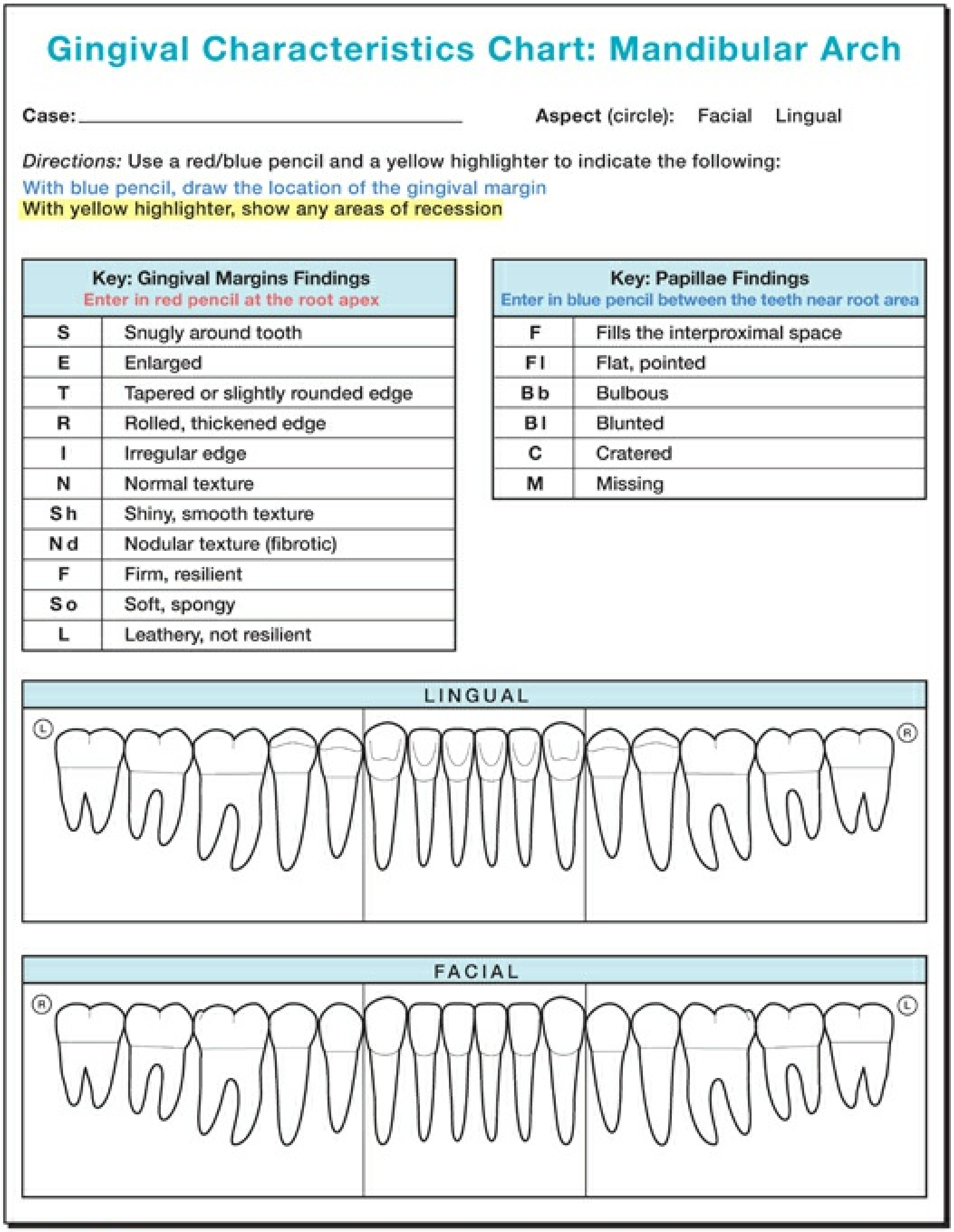
Directions: Highlight or circle the applicable descriptors.

In the last column, list your findings:

- Indicate if a characteristic is localized or generalized.
- If localized, note
  - the tooth number or
  - the aspect, facial or lingual, of the sextant(s) or quadrant(s) exhibiting the characteristic.
- If bleeding is evident, indicate extent as light, moderate, or heavy.

CHARACTERISTIC	NORMAL DESCRIPTORS	DISEASE DESCRIPTORS	LIST FINDINGS
Color	Pink Pigmented	Red Bluish purple White Pale pink *Distribution:* Papillary Marginal Diffuse	
Size	Fits snugly around tooth	Enlarged	
Position of Margin	Near the CEJ: 1–2 mm coronal to the CEJ	More than 2 mm coronal to the CEJ Apical to the CEJ	
Shape of Margin	Tapered or slightly rounded edge Fits snugly around tooth	Thickened edge Rolled edge Irregular edge	
Shape of Papilla	Flat, pointed papilla Fills interproximal space	Bulbous papilla Blunted papilla Cratered papilla Missing papilla	
Texture	Normal Stippled	Smooth and shiny Nodular (fibrotic)	
Consistency	Firm, resilient	Soft, flaccid Spongy, puffy Leathery, not resilient	
Bleeding, Exudate	No bleeding No exudate (pus)	Spontaneous bleeding Bleeding on probing Exudate	

FIGURE 15-44 Gingival Descriptor Worksheet for Ms. Eads: mandibular anterior sextant, facial aspect.



Gingival Characteristics Chart: Mandibular Arch

Case: ______________________________ **Aspect** (circle): Facial Lingual

Directions: Use a red/blue pencil and a yellow highlighter to indicate the following:
With blue pencil, draw the location of the gingival margin
With yellow highlighter, show any areas of recession

Key: Gingival Margins Findings Enter in red pencil at the root apex	
S	Snugly around tooth
E	Enlarged
T	Tapered or slightly rounded edge
R	Rolled, thickened edge
I	Irregular edge
N	Normal texture
Sh	Shiny, smooth texture
Nd	Nodular texture (fibrotic)
F	Firm, resilient
So	Soft, spongy
L	Leathery, not resilient

Key: Papillae Findings Enter in blue pencil between the teeth near root area	
F	Fills the interproximal space
Fl	Flat, pointed
Bb	Bulbous
Bl	Blunted
C	Cratered
M	Missing

LINGUAL

FACIAL

FIGURE 15-45 Gingival Characteristics Chart for Ms. Eads: mandibular anterior sextant, facial aspect.

SECTION 6 • Skill Check

Technique Skill Checklist: Gingival Description

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Selects the facial or lingual aspect of a sextant that shows the most tissue changes and assesses this area.		
For the selected area, accurately records the color of the gingival tissue on Gingival Descriptor Worksheet.		
Accurately records the size of the gingival tissue on the Gingival Descriptor Worksheet.		
Accurately records the position of the gingival margin on the Gingival Descriptor Worksheet.		
Accurately records the shape of the gingival margin on the Gingival Descriptor Worksheet.		
Accurately records the shape of the papillae on the Gingival Descriptor Worksheet.		
Accurately records the texture of the gingival tissue on the Gingival Descriptor Worksheet.		
Accurately records the consistency of the tissue on the Gingival Descriptor Worksheet.		

Checks for the presence or absence of bleeding and/or exudate. Notes bleeding and/or exudate, if applicable.		
Accurately draws the position of the gingival margin in the selected area on the Gingival Characteristics Chart.		
Indicates areas of recession with a yellow highlighter on the Gingival Characteristics Chart.		
Enters gingival margin findings in red pencil at the root apices on the Gingival Characteristics Chart.		
Enters findings for the papillae in blue pencil between the teeth on the Gingival Characteristics Chart.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Gingival Description

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of a fictitious patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Explains what is to be done.		
Points out changes in gingival characteristics and explains their significance to the patient.		
Encourages patient questions.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

MODULE
16

MIXED DENTITION AND OCCLUSION

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module presents a systematic approach to identifying the teeth present in a mixed dentition and for classifying the occlusion.

This module covers:

- Mixed dentitions and how to recognize primary and permanent teeth in the mouth
- Angle's classification of occlusion and how to classify a patient's occlusion
- Additional characteristics of malocclusion and malpositions of individual teeth

Before beginning this module, you should have completed the chapters on the primary and permanent dentitions and Angle's classification of occlusion in a dental anatomy textbook.

MODULE OUTLINE

SECTION 1 Sorting Out a Mixed Dentition

Stages in Eruption of the Primary and Secondary Dentitions

SECTION 2 **Learning to Look at the Occlusion**

The Relationship of the Maxillary and Mandibular Teeth
Angle’s Classification
Class I: Groove in the Normal Position
Class II, Division 1: Groove Posterior to the Normal Position
Class II, Division 2: Groove Posterior to the Normal Position
Class III: Groove Anterior to the Normal Position
Other Characteristics of Malocclusion
Malpositions of Individual Teeth

SECTION 3 **Peak Procedures**

Procedure 16-1. Identifying Teeth in a Mixed Dentition
Procedure 16-2. Occlusion Classification and Characteristics

SECTION 4 **Ready References: Mixed Dentition**

Ready Reference 16-1. Eruption Times: Primary Teeth
Ready Reference 16-2. Eruption Times: Permanent Teeth
Ready Reference 16-3. Stages in Eruption

SECTION 5 **Ready References: Occlusion**

Ready Reference 16-4. Occlusion Classification: Molar Relationship
Ready Reference 16-5. Occlusion Worksheet

SECTION 6 **The Human Element**

Through the Eyes of a Student
Through the Eyes of a Young Patient
English-to-Spanish Phrase List

SECTION 7 **Practical Focus—Mixed Dentition**

Fictitious Patient Case B: Bethany Biddle

Fictitious Patient Case: Lulu Lowe

Fictitious Patient Case: Kenneth Kole

SECTION 8 **Practical Focus—Occlusion**

SECTION 9 **Skill Check**

KEY TERMS

Mixed dentition • **Occlusion** • **Malocclusion** • **Overbite** • **Overjet** • **Angle's classification** • **End-to-end bite** • **Anterior/posterior crossbite**

OBJECTIVES

- List the order of eruption of the permanent teeth.
- List the time ranges for permanent tooth eruption.
- In a clinical setting, distinguish the primary and permanent teeth in a mixed dentition.
- In a clinical setting, identify Angle's Class I, Class II, and Class III relationships.
- List and describe types of tooth malocclusions.
- Provide information to a pediatric patient and his or her parent about the tooth eruption sequence.
- Provide information to a pediatric patient—and his or her parent—about the teeth present in (this patient's) mouth. Discuss the implications of notable findings.
- Provide information to the patient about occlusion, malocclusion, and any notable findings.
- Accurately communicate the findings to the clinical instructor/dentist. Discuss the implications of notable findings.
- Demonstrate knowledge of mixed dentitions by applying information from this module to the fictitious patient cases in this module.
- Given a patient case, establish the expected age of the individual by

studying the mixed dentition.
- Demonstrate knowledge of occlusion and malocclusion by applying information from this module to the fictitious patient cases in this module.

SECTION 1 • Sorting Out a Mixed Dentition

The patient assessment includes examination of the dentition. As a child ages, the maxilla and mandible grow, making room for the eruption of the permanent teeth. For a period of several years, a child will have a **mixed dentition**. That is, the child will have a combination of some primary teeth and some permanent teeth. Determining which teeth are primary and which are permanent in a mixed dentition can be challenging. This section presents a review of tooth eruption patterns. Guides to these stages can be found in the “Ready References” section of this module.

Stages in Eruption of the Primary and Secondary Dentitions

AGE 5 YEARS

The primary teeth usually erupt between ages 2½ and 5½ years of age; no permanent teeth are visible in the mouth (Fig. 16-1).

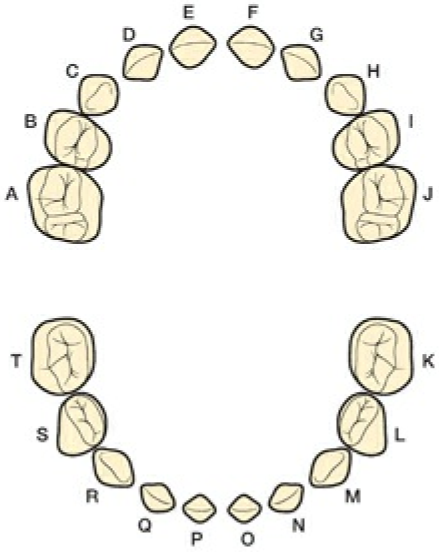


FIGURE 16-1 **The primary dentition.** The incisors, canines, and molars present in the primary dentition of a 5-year-old child. Note that there are no primary premolars.

AGE 6 TO 7 YEARS

As the maxilla and mandible grow, there is room for more teeth. From age 6 to 7 years, the permanent first molars erupt just distal to the second primary molars. No primary teeth are exfoliated to make room for these permanent molars. Eruption of the first molars is followed closely by the loss of the mandibular primary central incisors, which are quickly replaced by the permanent central incisors (Fig. 16-2).

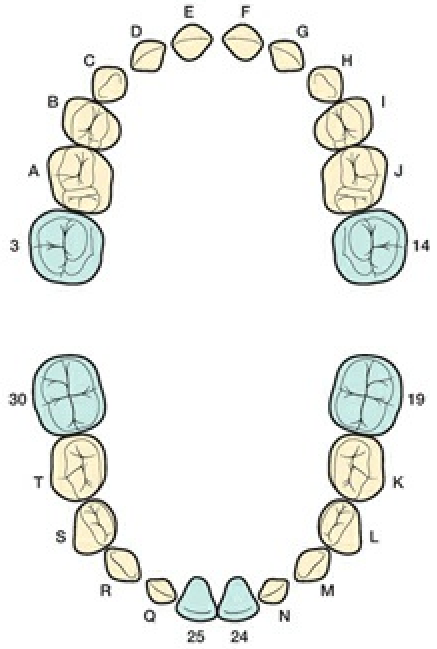

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FIGURE 16-2 Mixed dentition, age 6 to 7 years.

AGE 7 TO 8 YEARS

By age 7 to 8 years, the permanent incisors have replaced the primary incisors (Fig. 16-3).

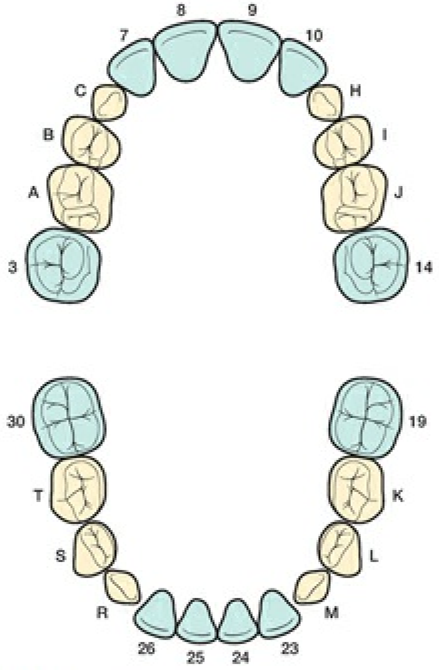
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FIGURE 16-3 Mixed dentition, age 7 to 8 years.

AGE 10 TO 12 YEARS

All four mandibular premolars erupt into place replacing the mandibular primary first molars and canines. On the maxillary arch, the permanent first premolars erupt and replace the primary first molars (Fig. 16-4).

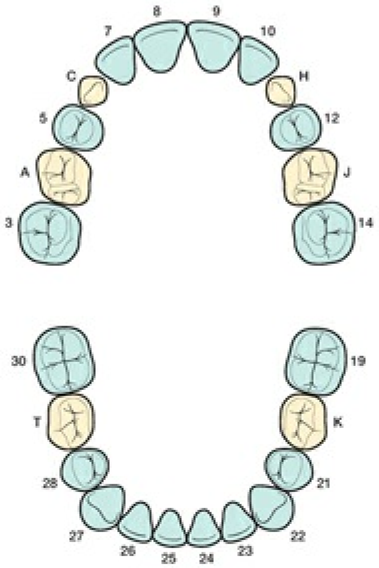
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FIGURE 16-4 Mixed dentition, age 10 to 12 years.

AGE 11 TO 13 YEARS

The primary canines and the primary second molars are the last to exfoliate. Normally, all primary teeth are exfoliated by age 13 years (Fig. 16-5).

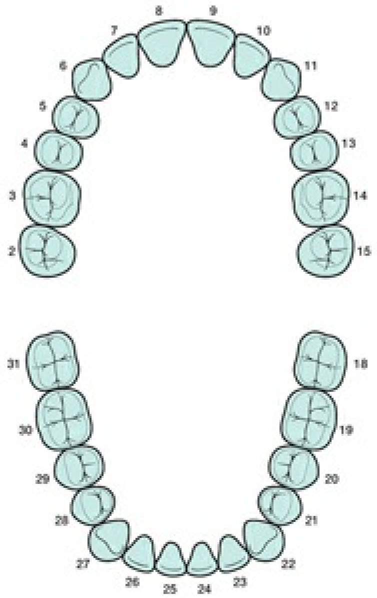
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FIGURE 16-5 Permanent dentition, age 11 to 13 years.

The Relationship of the Maxillary and Mandibular Teeth

The patient assessment includes an examination of the **occlusion**, the relationship of the teeth to each other when the incisal and occlusal surfaces of the mandibular arch contact those of the maxillary arch. The way that the teeth occlude during chewing and speaking is important for the appearance, comfort, and health of an individual.

The American Academy of Pediatric Dentistry defines **malocclusion** as the improper positioning of the teeth and jaws. Malocclusion is a variation of normal growth and development that can affect the bite, ability to maintain adequate plaque control, speech development, and appearance. A healthy occlusion normally exhibits overbite and overjet (Figs. 16-6 and 16-7). In addition, in a healthy occlusion, the maxillary teeth are positioned facial to the mandibular teeth (Fig. 16-8).

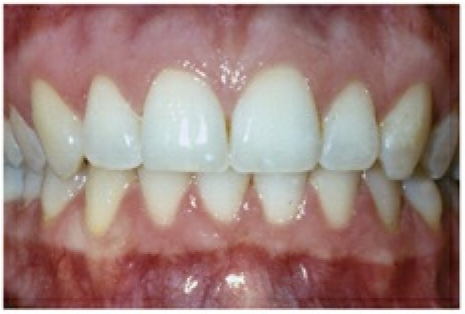


FIGURE 16-6 Vertical overlap. The maxillary incisors vertically overlap the mandibular incisors. The amount of vertical overlap is known as the **overbite**. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

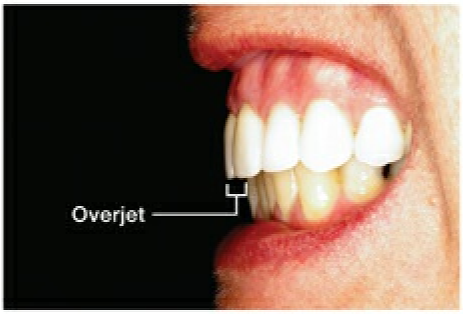


FIGURE 16-7 Horizontal distance. The maxillary incisors are labial to the mandibular incisors. The horizontal distance between the incisal edges of the maxillary teeth and the mandibular teeth is known as the **overjet**.

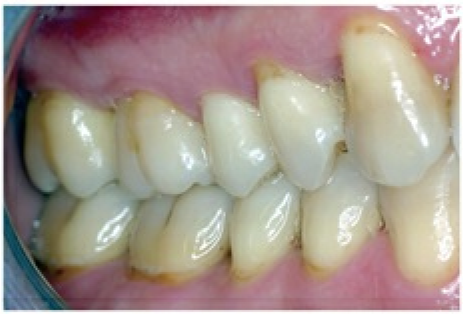


FIGURE 16-8 **Relationship of teeth.** The cusps of the maxillary teeth overlap the mandibular teeth. The maxillary teeth are facial to the mandibular teeth. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

Angle's Classification

In 1887, Dr. Edward H. Angle developed a system for classifying the relationship of the mandibular teeth to the maxillary teeth. Angle's classification is still in widespread use today.

- **Angle's classification** system is based primarily on the relationship of the mandibular first molar to the maxillary first molar.
- According to Angle, there are three relationships that can exist between the first molars: Class I, Class II, or Class III.
- If the first molars are missing or malaligned, the relationship of the mandibular canine to the maxillary canine is used in determining the classification.
- *The key to understanding Angle's classification is* ***the position of the buccal groove of the mandibular permanent first molar*** *in relation to the maxillary teeth* (Fig. 16-9).

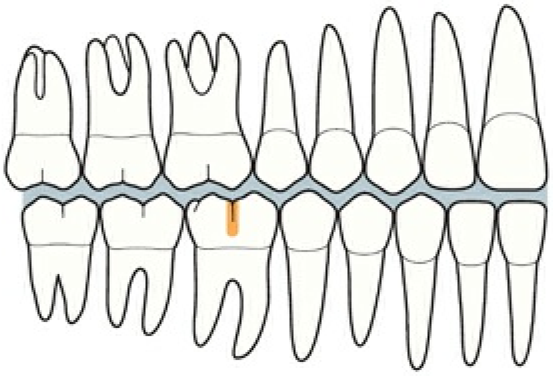


FIGURE 16-9 **Angle's classification.** The key to understanding Angle's classification is the buccal groove of the mandibular first molar. In this illustration, orange shading indicates the buccal groove. Many clinicians find it helpful to remember the phrase **"the mandibular groove moves"** when assessing occlusion.

Class I: Groove in the Normal Position

- Molar relation: ***The buccal groove of the mandibular first molar is directly in line with the mesiobuccal cusp of maxillary first molar*** (Fig. 16-10).

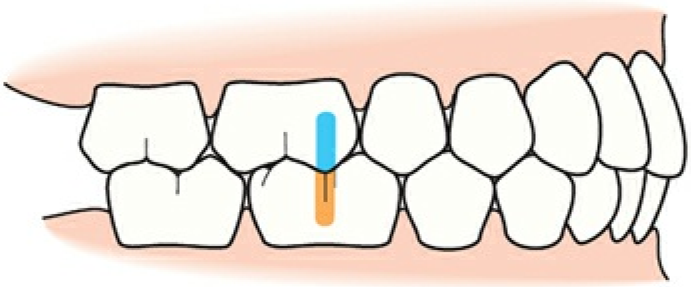


FIGURE 16-10 Angle's Class I occlusion.

- Canine relation: The maxillary permanent canine occludes with the distal half of the mandibular canine and the mesial half of the mandibular permanent premolar.

Class II, Division 1: Groove Posterior to the Normal Position

- Molar relation: ***The buccal groove of the mandibular first molar is distal to the mesiobuccal cusp of maxillary first molar by at least the width of a premolar*** (Fig. 16-11).

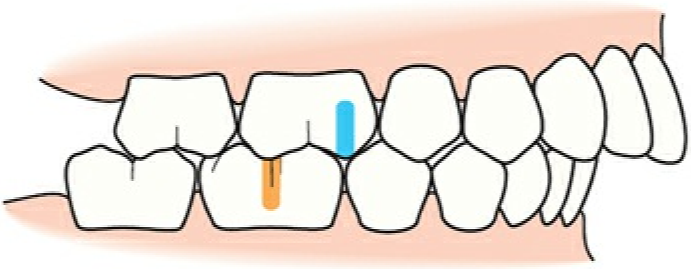


FIGURE 16-11 Angle's Class II, Division 1 occlusion.

- Canine relation: The distal surface of the mandibular canine is distal to the mesial surface of the maxillary canine by at least the width of a

premolar.
- In Class II, Division 1, all four of the maxillary incisors are protruded.

Class II, Division 2: Groove Posterior to the Normal Position

- Molar relation: ***The buccal groove of the mandibular first molar is distal to the mesiobuccal cusp of maxillary first molar by at least the width of a premolar*** (Fig. 16-12).

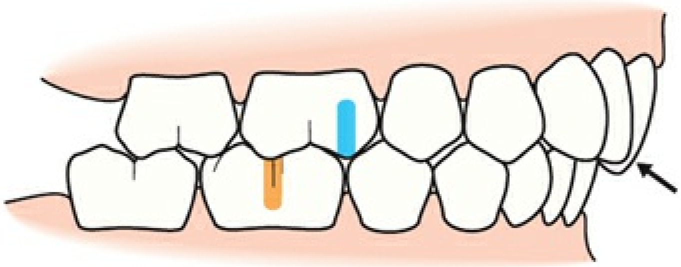


FIGURE 16-12 Angle's Class II, Division 2 occlusion.

- Canine relation: The distal surface of the mandibular canine is distal to the mesial surface of the maxillary canine by at least the width of a premolar.
- In Class II, Division 2, both maxillary lateral incisors protrude while both central incisors retrude.

Class III: Groove Anterior to the Normal Position

- Molar relation: ***The buccal groove of the mandibular first molar is mesial to the mesiobuccal cusp of maxillary first molar by at least the width of a premolar*** (Fig. 16-13).

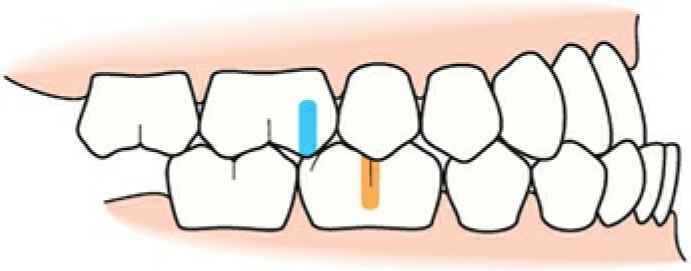


FIGURE 16-13 Angle's Class III occlusion.

- Canine relation: The distal surface of the mandibular canine is mesial to the mesial surface of the maxillary canine by at least the width of a premolar.

Other Characteristics of Malocclusion

Malocclusions may have many variations. Some of these variations are depicted in Figures 16-14 through 16-21.

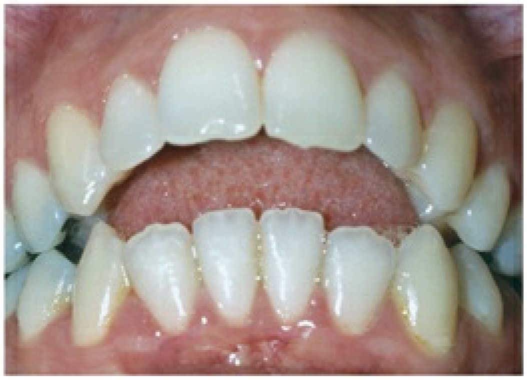


FIGURE 16-14 **Open bite.** The maxillary anterior teeth do not overlap or contact the mandibular anterior teeth. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

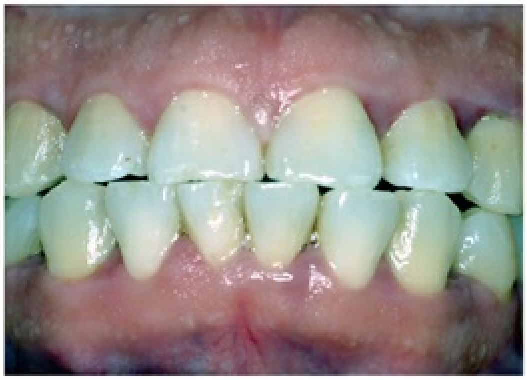


FIGURE 16-15 **Anterior edge-to-edge bite.** The incisal surfaces on the maxillary and mandibular teeth occlude (meet). On posterior teeth, an **end-to-end bite** occurs when the cusps of the maxillary teeth occlude with the cusps of the opposing mandibular teeth. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

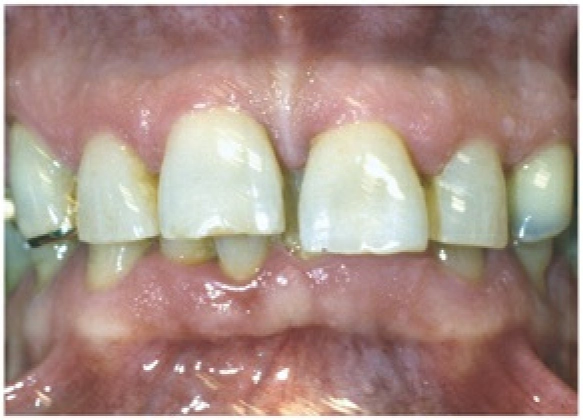


FIGURE 16-16 **Deep overbite.** The incisal edges of the maxillary anterior teeth are at a level of the cervical third of the mandibular anterior teeth. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

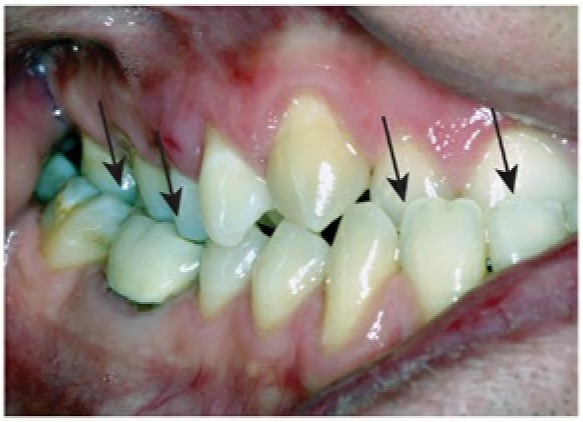


FIGURE 16-17 **Crossbite.** When one or more of the mandibular teeth are located facial to their maxillary counterparts. This photograph shows both an **anterior** and **posterior crossbite**. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

Malpositions of Individual Teeth

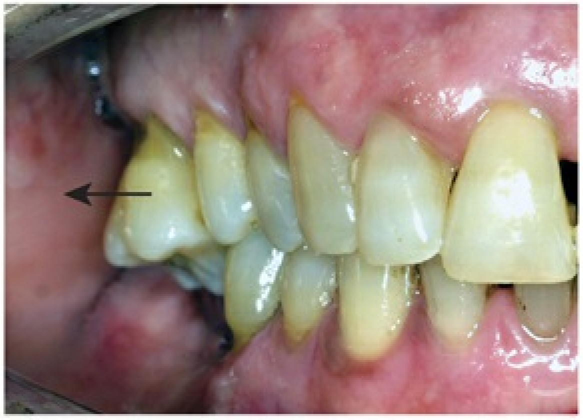


FIGURE 16-18 **Facioversion.** A tooth that is positioned facial to its normal position. In this photograph, the maxillary first molar is in facioversion. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

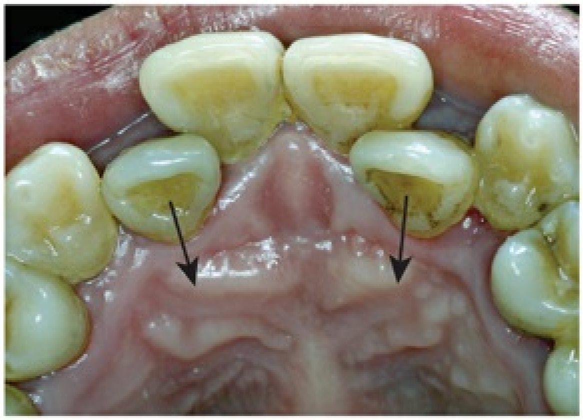


FIGURE 16-19 **Linguoversion.** A tooth that is positioned lingual to its normal position. In this photograph, the maxillary lateral incisors are in linguoversion. (Courtesy of Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.)

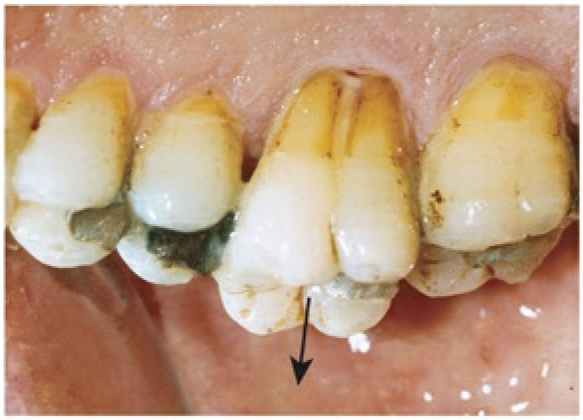


FIGURE 16-20 **Supraversion.** The extension of a tooth beyond the plane of occlusion. In this photograph, the maxillary first molar is in supraversion. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

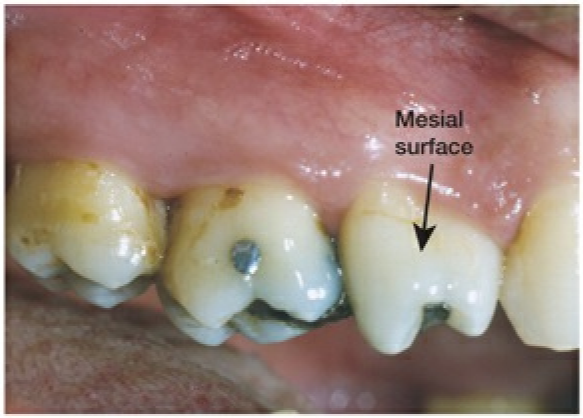


FIGURE 16-21 **Rotated (torsiversion).** A tooth that is turned in relation to its normal position. In this photograph, the maxillary first premolar is rotated. (Courtesy of Dr. Don Rolfs, Wenatchee, WA.)

SECTION 3 • **Peak Procedures**

Procedure 16-1. Identifying Teeth in a Mixed Dentition

Action	Rationale

1. **Assemble resources.** Use the ***Eruption Times*** and the ***Stages in Eruption*** references from Section 4 of this module.	• These references will assist you in recognizing primary and permanent teeth.
2. **Identify the primary teeth.** Circle the primary teeth present in red pencil on the ***Mixed Dentition Worksheet*** provided for each patient case.	• Focusing your attention on identifying the primary teeth will help you to sort out the mixture of primary and permanent teeth.
3. **Identify the permanent teeth.** Circle the permanent teeth present in blue pencil on the ***Mixed Dentition Worksheet***.	• Once you have identified the primary teeth, focus your attention on recognizing the permanent teeth present in the mouth.
4. **Record.** Transfer the information from the ***Mixed Dentition Worksheet*** to the patient's chart or computerized record.	• Referring to the information entered on the ***Mixed Dentition Worksheet*** will facilitate the dental charting process.

Procedure 16-2. Occlusion Classification and Characteristics

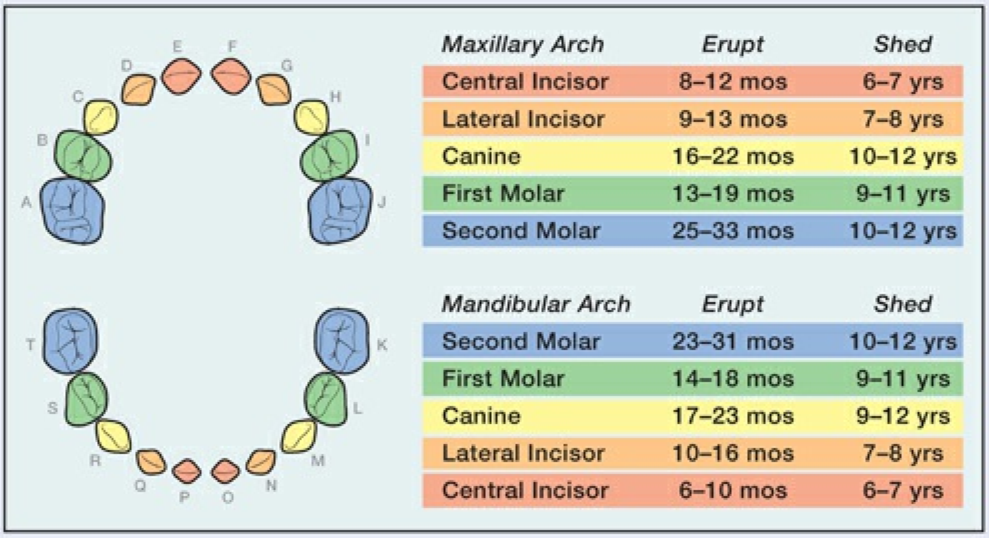
Action	**Rationale**
1. **Assemble resources.** Use the ***Occlusion***	• This reference will assist you in assessing the molar

Classification: Molar Relationship reference from Section 5 of this module.	relationship. • Note: If either the maxillary or mandibular molars are missing, the canines are used to classify the dentition.
2. **Determine the molar relationship.** Enter your findings on the ***Occlusion Worksheet*** from Section 5 of this module.	• The items listed on the worksheet will help you remember to check for all characteristics of malocclusion and tooth malpositions.
3. **Record.** Transfer the information from the ***Occlusion Worksheet*** to the patient's chart or computerized record.	• Referring to the information entered on the ***Occlusion Worksheet*** will facilitate the documentation process.

SECTION 4 • Ready References: Mixed Dentition

NOTE: The Ready References in this book may be removed from the book by tearing along the perforated lines on each page. Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

Ready Reference 16-1. Eruption Times: Primary Teeth

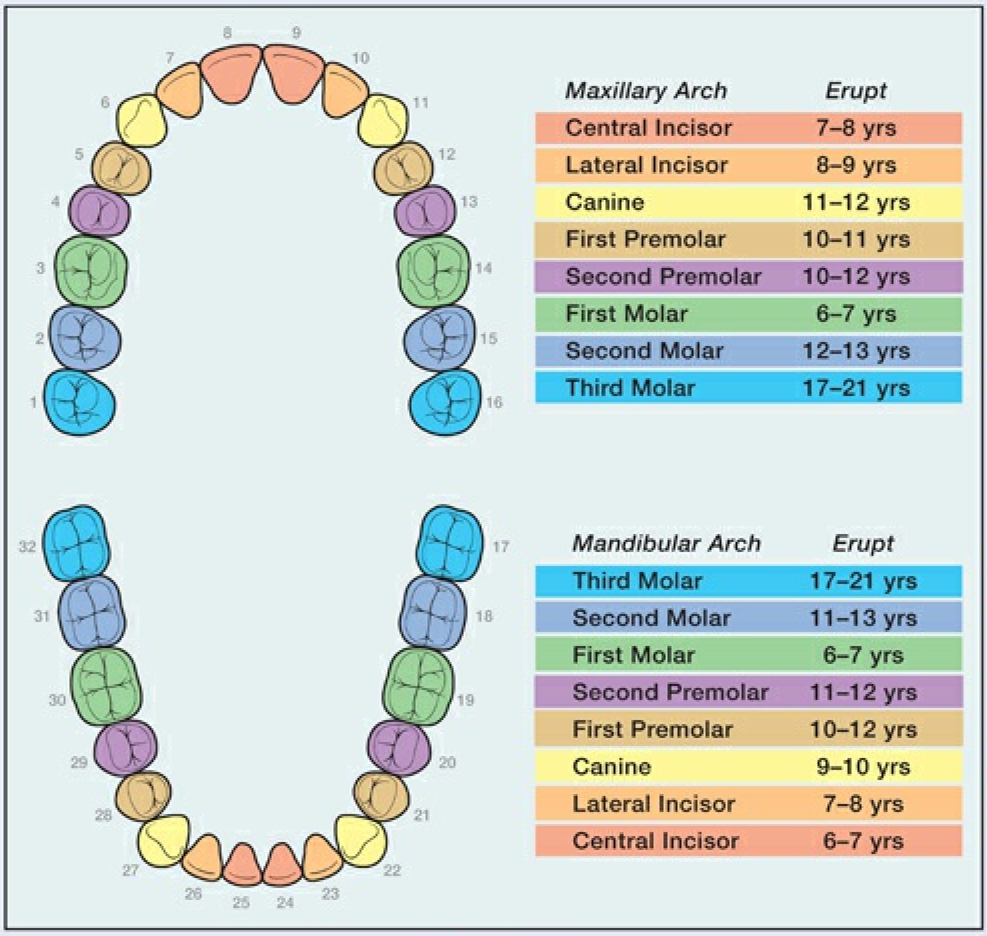


Maxillary Arch	Erupt	Shed
Central Incisor	8–12 mos	6–7 yrs
Lateral Incisor	9–13 mos	7–8 yrs
Canine	16–22 mos	10–12 yrs
First Molar	13–19 mos	9–11 yrs
Second Molar	25–33 mos	10–12 yrs

Mandibular Arch	Erupt	Shed
Second Molar	23–31 mos	10–12 yrs
First Molar	14–18 mos	9–11 yrs
Canine	17–23 mos	9–12 yrs
Lateral Incisor	10–16 mos	7–8 yrs
Central Incisor	6–10 mos	6–7 yrs

FIGURE 16-22

Ready Reference 16-2. Eruption Times: Permanent Teeth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32

Maxillary Arch	*Erupt*
Central Incisor	7–8 yrs
Lateral Incisor	8–9 yrs
Canine	11–12 yrs
First Premolar	10–11 yrs
Second Premolar	10–12 yrs
First Molar	6–7 yrs
Second Molar	12–13 yrs
Third Molar	17–21 yrs

Mandibular Arch	*Erupt*
Third Molar	17–21 yrs
Second Molar	11–13 yrs
First Molar	6–7 yrs
Second Premolar	11–12 yrs
First Premolar	10–12 yrs
Canine	9–10 yrs
Lateral Incisor	7–8 yrs
Central Incisor	6–7 yrs

FIGURE 16-23

Ready Reference 16-3. Stages in Eruption

AGE 5 YEARS

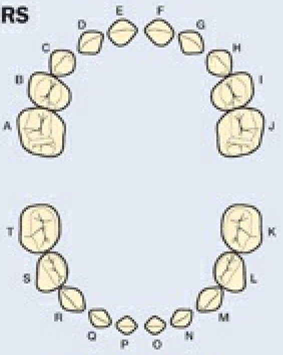

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FIGURE 16-24A

AGE 6–7 YEARS

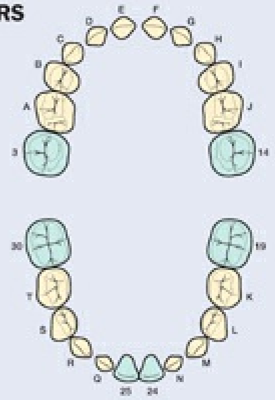

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FIGURE 16-24B

AGE 7–8 YEARS

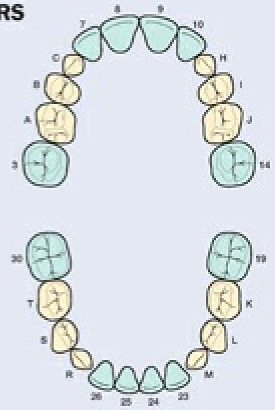

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FIGURE 16-24C

AGE 10–12 YEARS

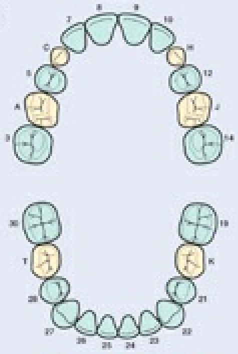

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FIGURE 16-24D

AGE 11–13 YEARS

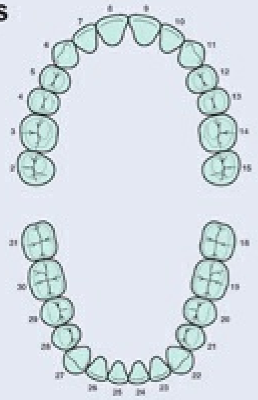

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FIGURE 16-24E

SECTION 5 • Ready References: Occlusion

The Ready References may be removed from the book by tearing along the perforated lines on each page. Laminating or placing these pages in plastic protector sheets will allow them to be disinfected for use in a clinical setting.

Ready Reference 16-4. Occlusion Classification: Molar Relationship

Class I

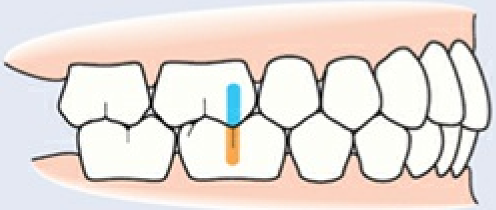


FIGURE 16-25A

- The buccal groove of the mandibular first molar is **in line with** the mesiobuccal cusp of the maxillary first molar.

Class II, Division 1

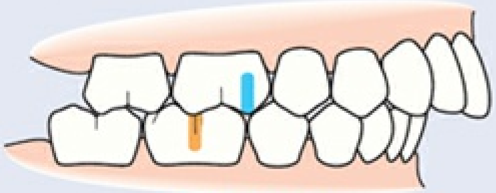


FIGURE 16-25B

- The buccal groove of the mandibular first molar is **distal to** the mesiobuccal cusp of maxillary first molar by at least the width of a premolar.
- In Class II, Division 1, all of the maxillary anterior incisors are protruded.

Class II, Division 2

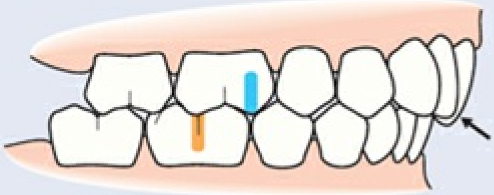


FIGURE 16-25C

- The buccal groove of the mandibular first molar is **distal to** the mesiobuccal cusp of maxillary first molar by at least the width of a premolar.
- In Class II, Division 2, both maxillary lateral incisors protrude while both central incisors retrude.

Class III

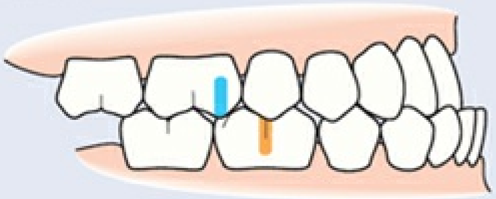
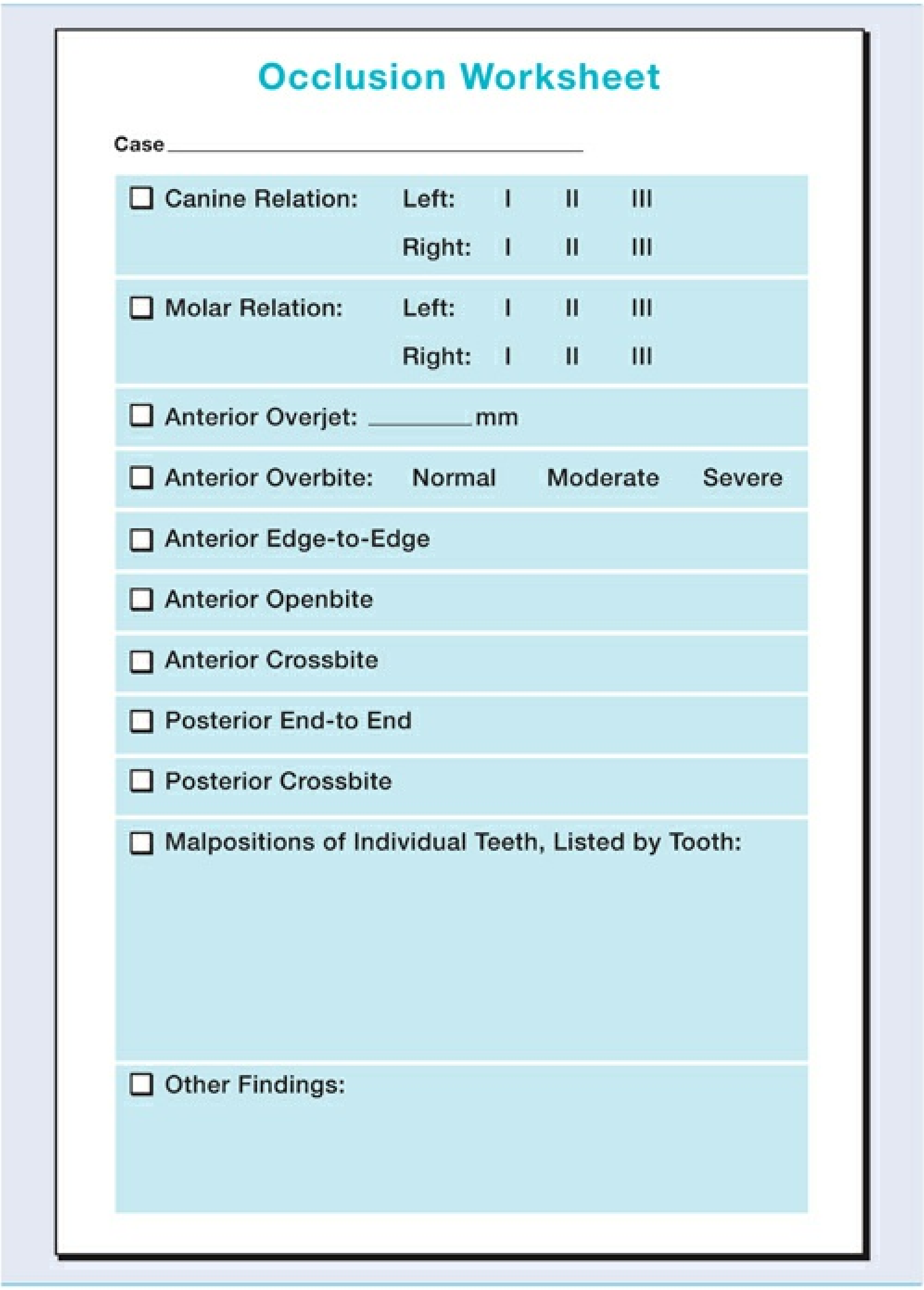


FIGURE 16-25D

- The buccal groove of the mandibular first molar is **mesial to** the mesiobuccal cusp of maxillary first molar by at least the width of a premolar.

Ready Reference 16-5. Occlusion Worksheet



Occlusion Worksheet

Case ____________________________

☐ Canine Relation: Left: I II III
Right: I II III

☐ Molar Relation: Left: I II III
Right: I II III

☐ Anterior Overjet: ________ mm

☐ Anterior Overbite: Normal Moderate Severe

☐ Anterior Edge-to-Edge

☐ Anterior Openbite

☐ Anterior Crossbite

☐ Posterior End-to End

☐ Posterior Crossbite

☐ Malpositions of Individual Teeth, Listed by Tooth:

☐ Other Findings:

SECTION 6 • The Human Element

Through the Eyes of a Student

PRIMARY OR PERMANENT TOOTH?

I had gotten pretty confident about charting a patient's teeth. I had seen several adult patients and one 16-year-old. But then it happened. Sitting in my chair was my first patient with a mixed dentition. My palms began to sweat. As I looked in the mouth, I could not tell which teeth were permanent and which ones were primary. I really started to panic.

Then, I got out an eruption chart that I had laminated for clinic. I studied the chart to see which teeth were likely to be present in a child's mouth at age 10 years. I calmed down and thought about which primary teeth were likely to be present and which permanent teeth probably would have erupted by age 10 years.

I looked in the patient's mouth again and began marking the primary teeth that were present. Next, I crossed out the permanent teeth that were not present in the mouth. Before I knew it, I had prepared a chart of teeth present in my patient's mouth.

When my instructor reviewed my charting, she smiled and said, "Bravo, Skip!" I felt really proud of myself, but most important, I learned that I could handle new things when I just stay calm and stop to remember all the pieces of information in the puzzle (like primary dentition, adult dentition, and eruption patterns).

Skip, student,
South Florida Community College

Through the Eyes of a Young Patient

EDUCATING PEDIATRIC PATIENTS

Use an Internet browser, such as Google, to locate creative websites to educate your pediatric patients. For example, play some of the games at http://www.kidshealth.org/kid/closet, a website to help children explore their health.

- As a class project, compile a list of educational dental and medical health websites that would be fun and interesting for children.
- How might you incorporate similar websites into the dental office?

English-to-Spanish Phrase List

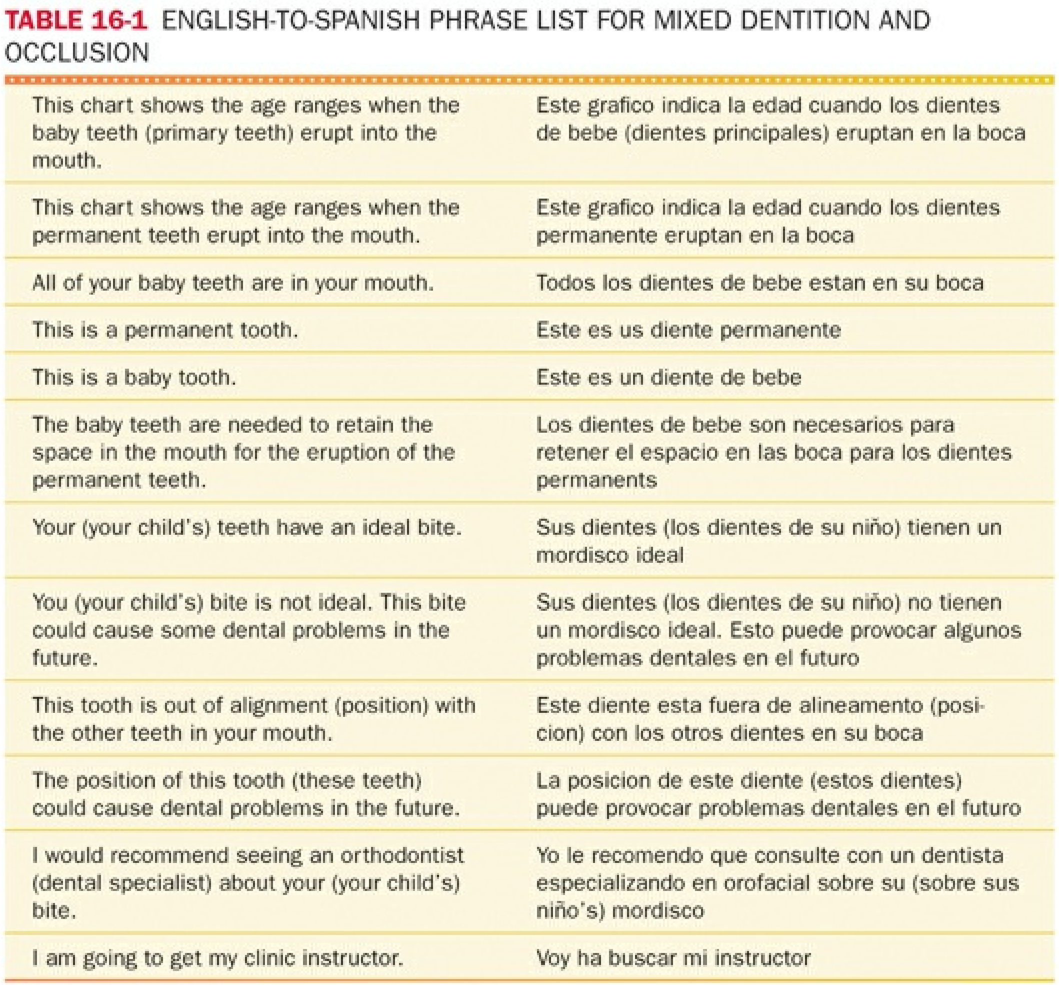


TABLE 16-1 ENGLISH-TO-SPANISH PHRASE LIST FOR MIXED DENTITION AND OCCLUSION

This chart shows the age ranges when the baby teeth (primary teeth) erupt into the mouth.	Este grafico indica la edad cuando los dientes de bebe (dientes principales) eruptan en la boca
This chart shows the age ranges when the permanent teeth erupt into the mouth.	Este grafico indica la edad cuando los dientes permanente eruptan en la boca
All of your baby teeth are in your mouth.	Todos los dientes de bebe estan en su boca
This is a permanent tooth.	Este es us diente permanente
This is a baby tooth.	Este es un diente de bebe
The baby teeth are needed to retain the space in the mouth for the eruption of the permanent teeth.	Los dientes de bebe son necesarios para retener el espacio en las boca para los dientes permanents
Your (your child's) teeth have an ideal bite.	Sus dientes (los dientes de su niño) tienen un mordisco ideal
You (your child's) bite is not ideal. This bite could cause some dental problems in the future.	Sus dientes (los dientes de su niño) no tienen un mordisco ideal. Esto puede provocar algunos problemas dentales en el futuro
This tooth is out of alignment (position) with the other teeth in your mouth.	Este diente esta fuera de alineamento (posicion) con los otros dientes en su boca
The position of this tooth (these teeth) could cause dental problems in the future.	La posicion de este diente (estos dientes) puede provocar problemas dentales en el futuro
I would recommend seeing an orthodontist (dental specialist) about your (your child's) bite.	Yo le recomendo que consulte con un dentista especializando en orofacial sobre su (sobre sus niño's) mordisco
I am going to get my clinic instructor.	Voy ha buscar mi instructor

SECTION 7 • Practical Focus—Mixed Dentition

DIRECTIONS

- Use the steps outlined in **Procedure 16-1** and the **Mixed Dentition Worksheet** to determine the primary and permanent teeth present for the three fictitious patient cases in this section. Bethany Biddle is a fictitious patient that you are familiar with from other modules in the book. The other two fictitious patients are unique to this module.
- Determine the expected age of each patient by studying his or her mixed dentition.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

Fictitious Patient Case B: Bethany Biddle

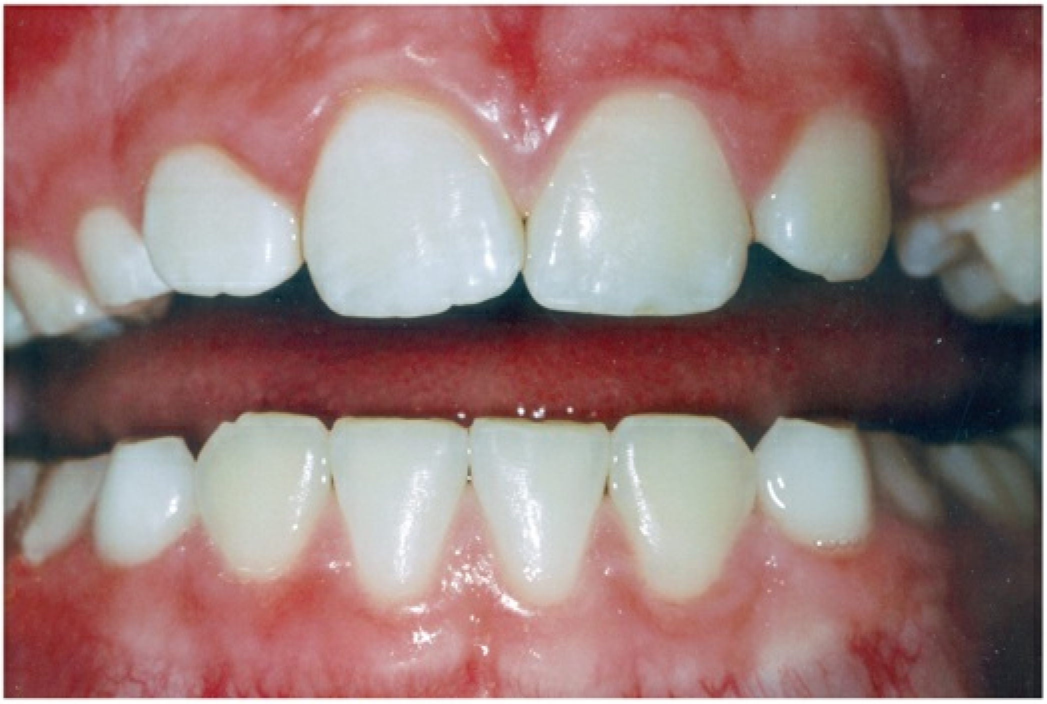


FIGURE 16-26 Anterior view of Bethany's dentition.

Directions Case B:

- View the three photographs of Bethany’s mouth on this and the following pages.
- Remove the **Mixed Dentition Worksheet** that follows the three photos of Bethany’s mouth and indicate the primary and permanent teeth present.
- Indicate Bethany’s expected age based on the primary and permanent teeth present in her mouth at this time: ____________

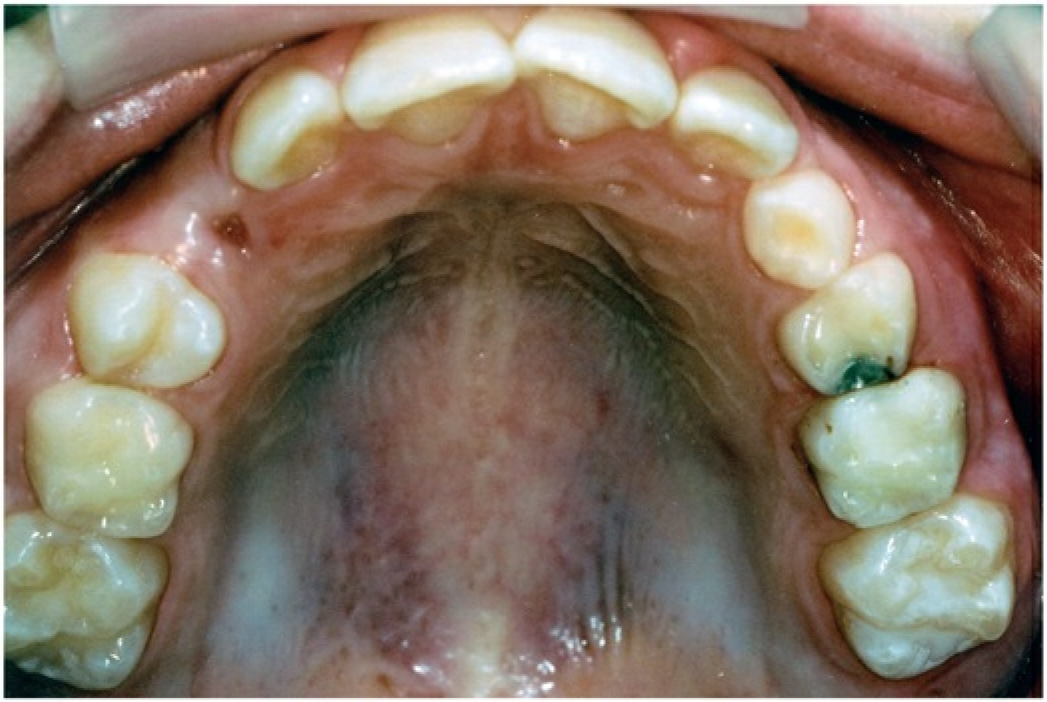


FIGURE 16-27 Bethany's dentition: maxillary arch.

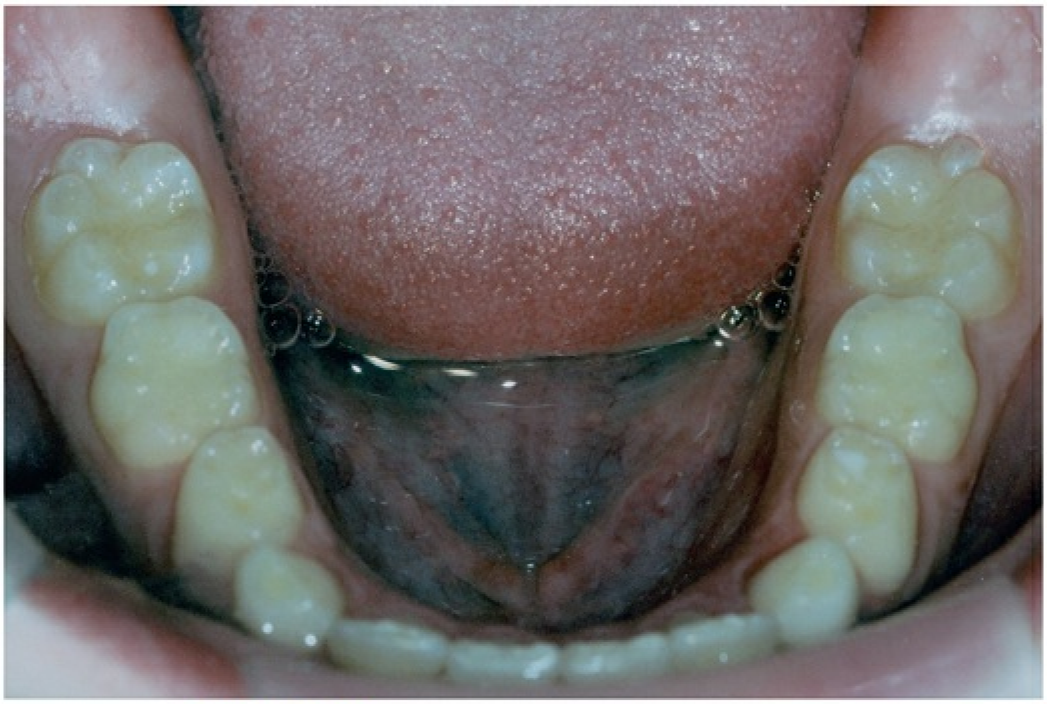
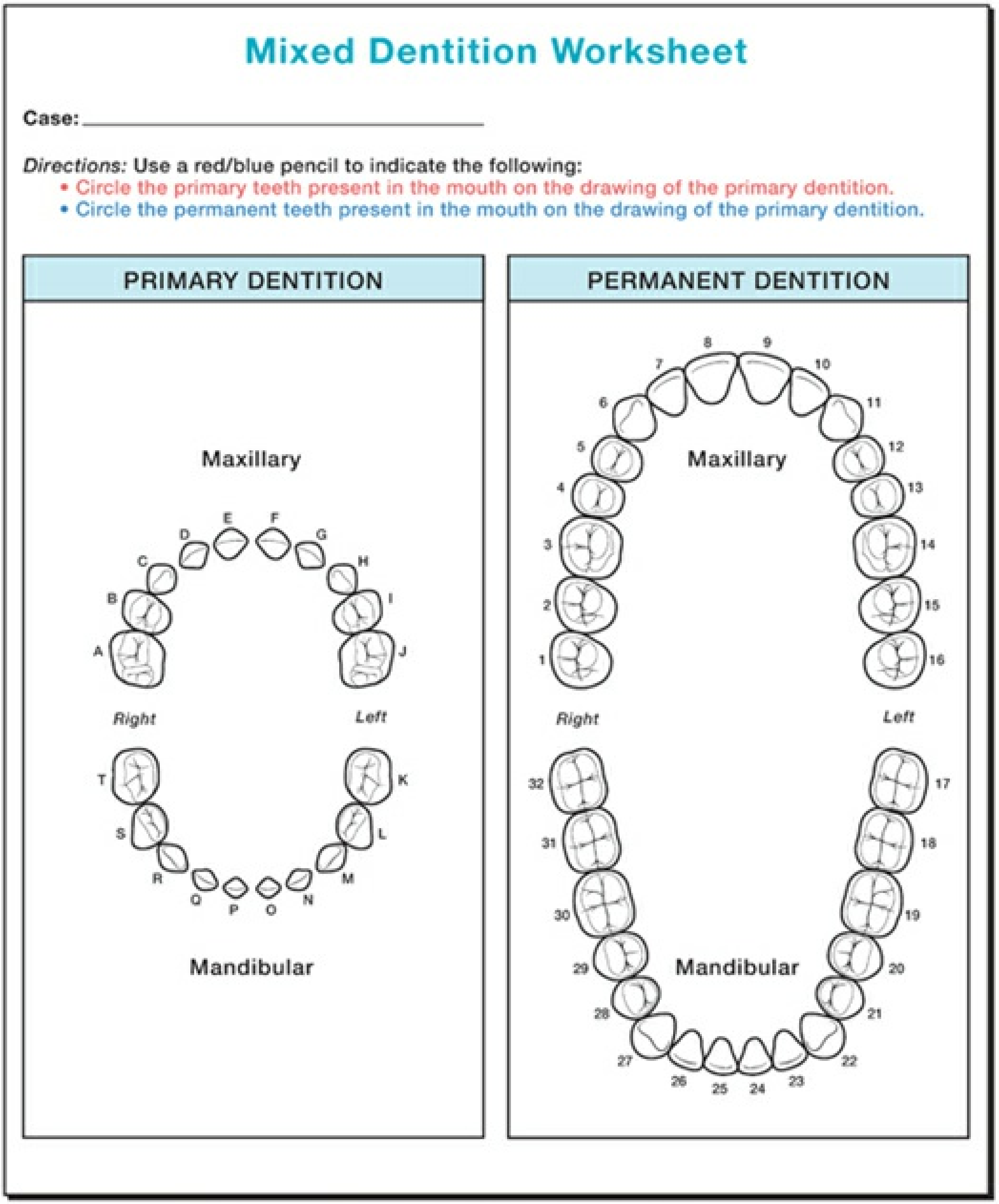


FIGURE 16-28 Bethany's dentition: mandibular arch.



Mixed Dentition Worksheet

Case: ________________________________

Directions: Use a red/blue pencil to indicate the following:

- Circle the primary teeth present in the mouth on the drawing of the primary dentition.
- Circle the permanent teeth present in the mouth on the drawing of the primary dentition.

PRIMARY DENTITION	PERMANENT DENTITION

Maxillary
A
B
C
D
E
F
G
H
I
J
Right
Left
T
S
R
Q
P
O
N
M
L
K
Mandibular
Maxillary
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Right
Left
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
Mandibular

FIGURE 16-29 **Mixed Dentition Worksheet for Bethany Biddle.**

Fictitious Patient Case: Lulu Lowe

Patient Case L is a pediatric patient with fixed orthodontic appliances and a mixed dentition.

Directions for Case L:

- View the photograph of Lulu’s mouth shown in Figure 16-30.

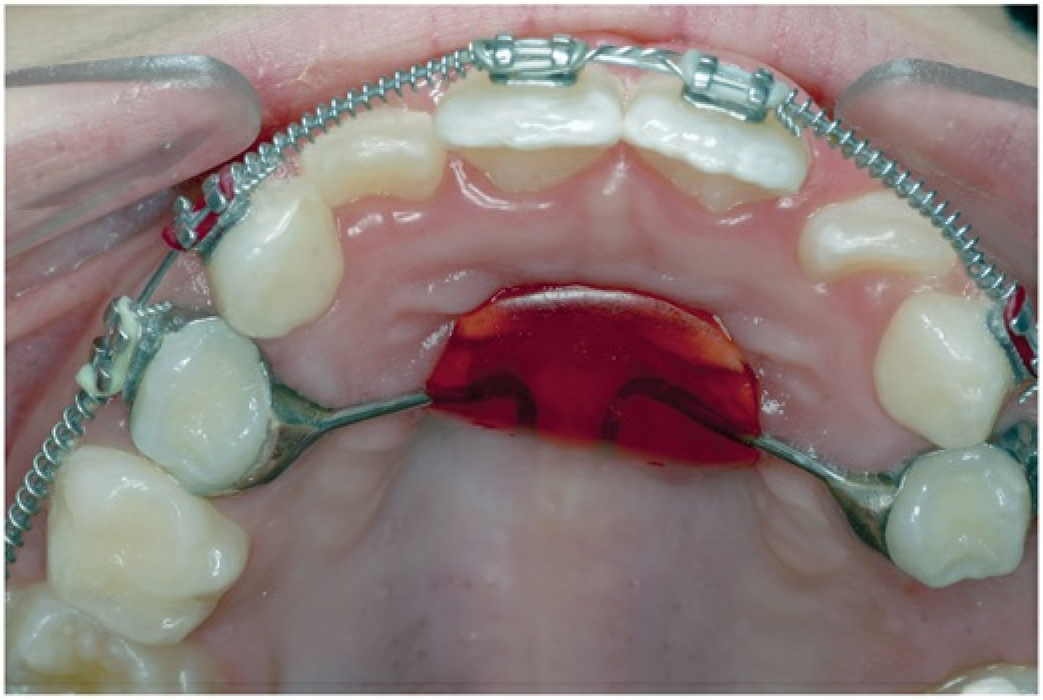
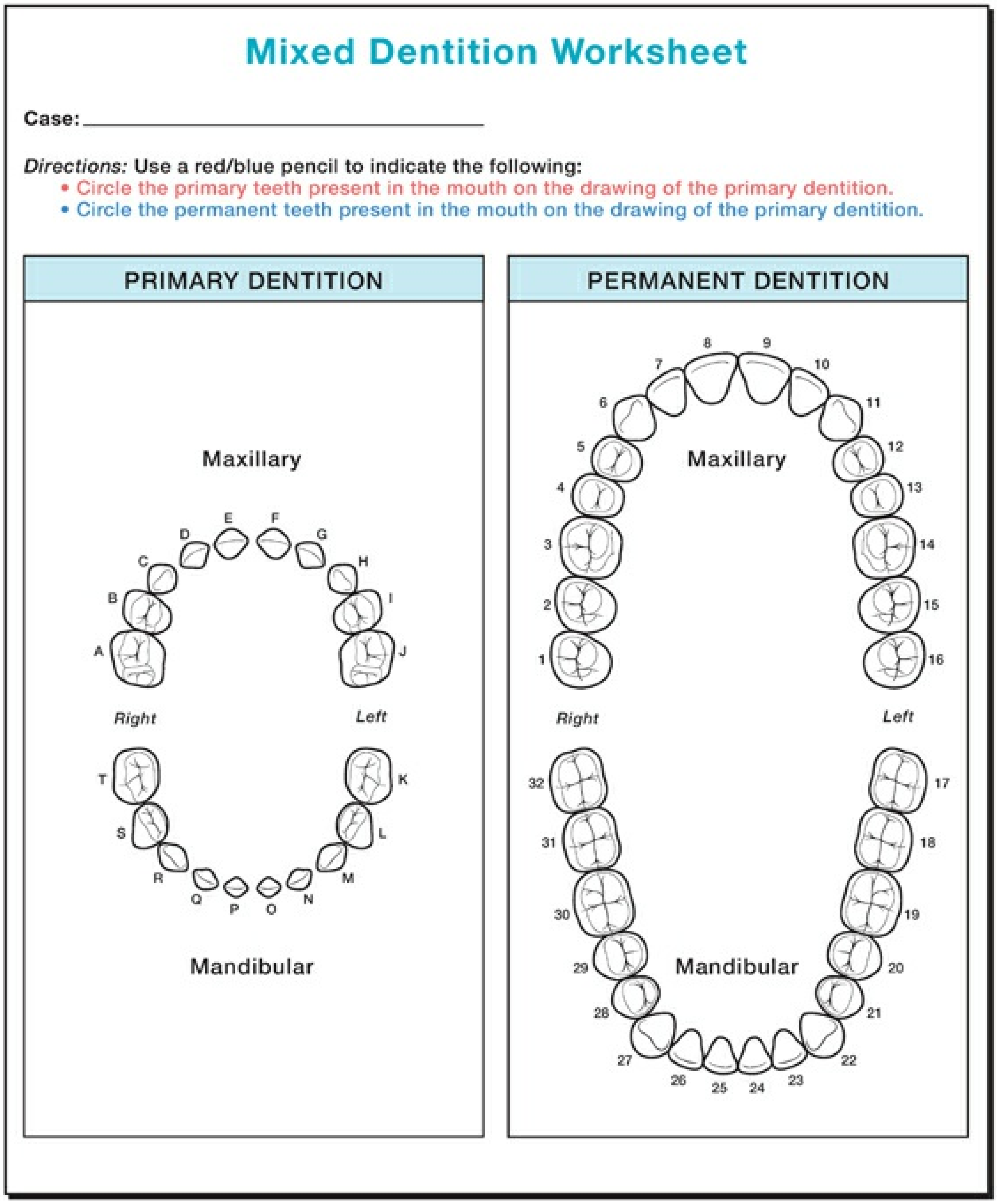


FIGURE 16-30 Lulu's dentition on the maxillary arch.



Mixed Dentition Worksheet

Case: ______________________________

Directions: Use a red/blue pencil to indicate the following:

- Circle the primary teeth present in the mouth on the drawing of the primary dentition.
- Circle the permanent teeth present in the mouth on the drawing of the primary dentition.

PRIMARY DENTITION
Maxillary
A
B
C
D
E
F
G
H
I
J
Right
Left
T
S
R
Q
P
O
N
M
L
K
Mandibular
PERMANENT DENTITION
Maxillary
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Right
Left
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
Mandibular

FIGURE 16-31 Mixed Dentition Worksheet for Lulu Lowe.

- Remove the **Mixed Dentition Worksheet** that follows and indicate the primary and permanent teeth present in Lulu's mouth.
- Indicate Lulu's expected age based on the primary and permanent teeth present in her mouth at this time: ________________

Fictitious Patient Case: Kenneth Kole

Directions for Case K:

- View the photograph of Ken's mouth shown in Figure 16-32.

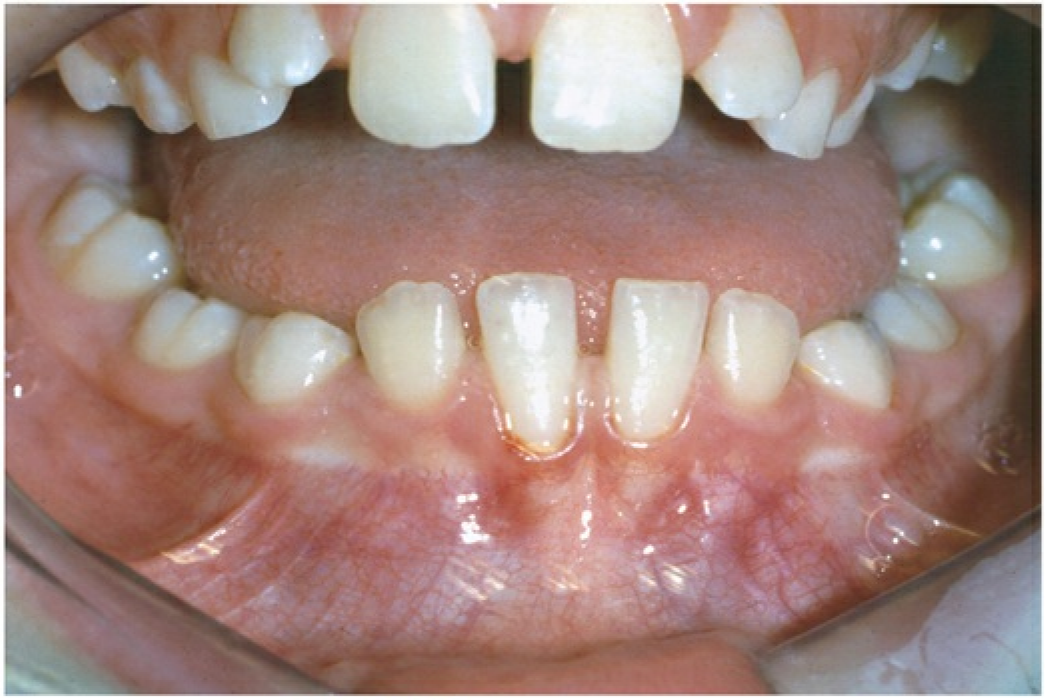
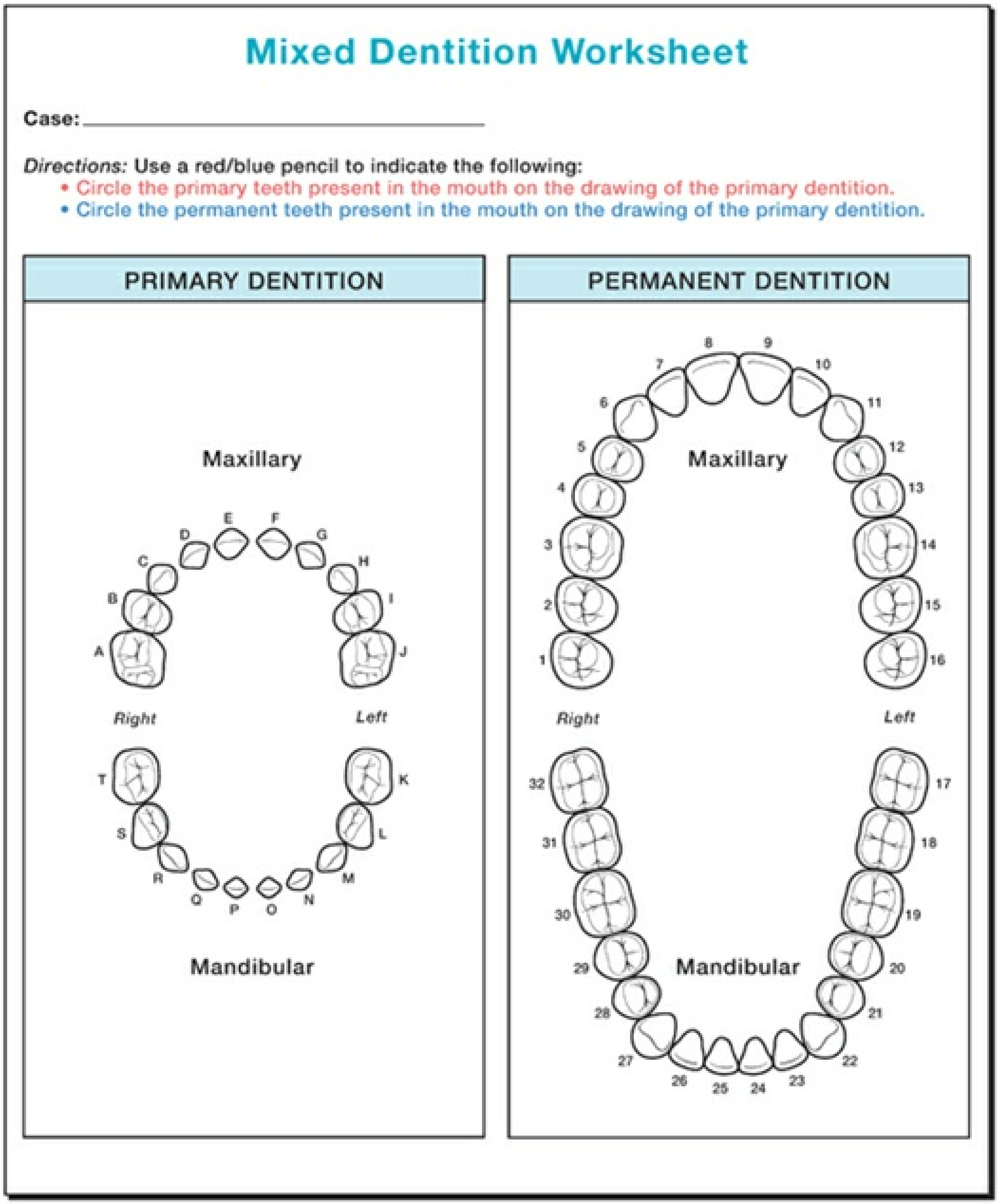


FIGURE 16-32 Kenneth Kole's dentition.

- Remove the **Mixed Dentition Worksheet** that follows and indicate the primary and permanent teeth present in Ken's mouth.
- Indicate Ken's expected age based the primary and permanent teeth present in her mouth at this time: _______________



Mixed Dentition Worksheet

Case: ______________________________

Directions: Use a red/blue pencil to indicate the following:

- Circle the primary teeth present in the mouth on the drawing of the primary dentition.
- Circle the permanent teeth present in the mouth on the drawing of the primary dentition.

PRIMARY DENTITION	PERMANENT DENTITION

Maxillary
A
B
C
D
E
F
G
H
I
J
Right
Left
T
S
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K
Mandibular
Maxillary
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Mandibular

FIGURE 16-33 **Mixed Dentition Worksheet for Kenneth Kole.**

SECTION 8 • Practical Focus—Occlusion

DIRECTIONS

- Locate **Ready Reference 16-5,** the **Occlusion Worksheet**, in Section 5 of this module. Photocopy the **Occlusion Worksheet** or duplicate it on notebook paper so that you have a worksheet for each of Figure 16-34 to

16-47.

- Follow the steps outlined in **Procedure 16-2** to describe the occlusal characteristics for the fictitious patient cases shown in Figure 16-34 to 16-47.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

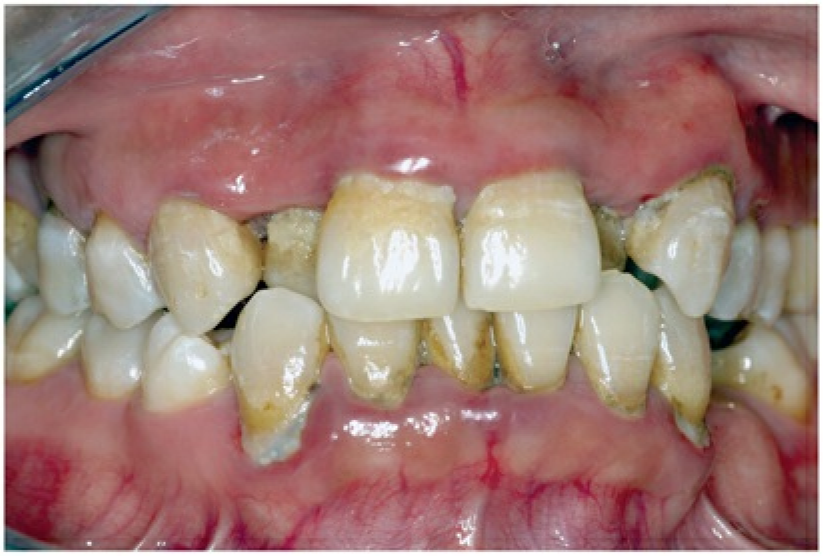
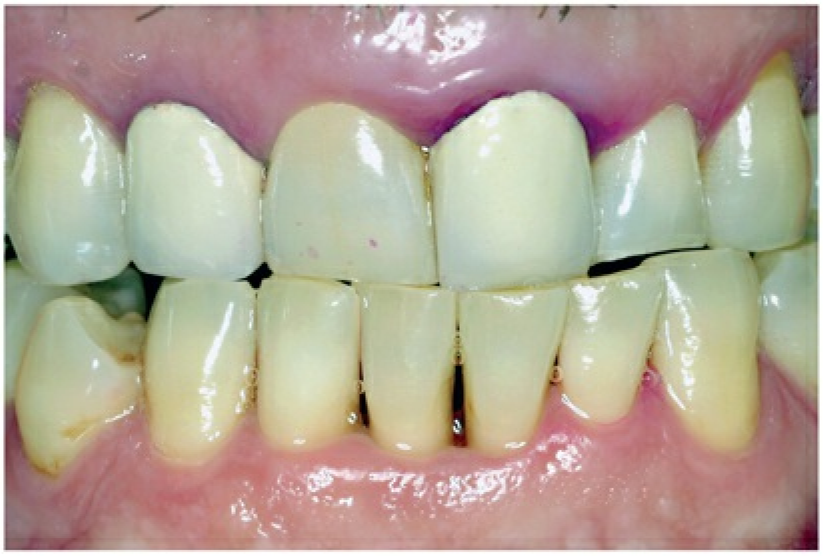


FIGURE 16-34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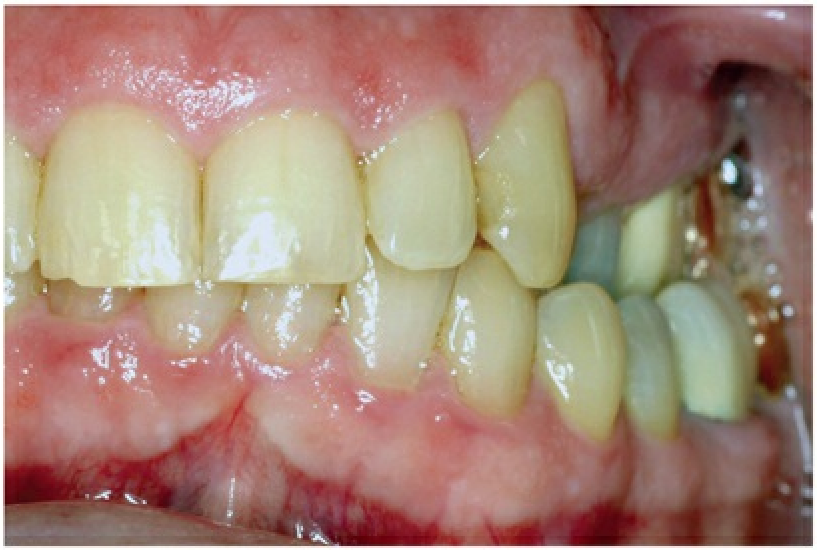
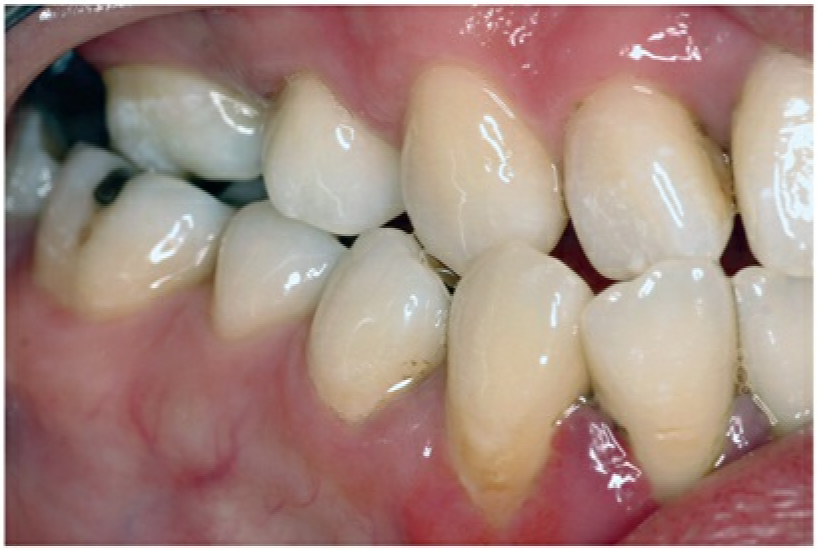


FIGURE 16-36



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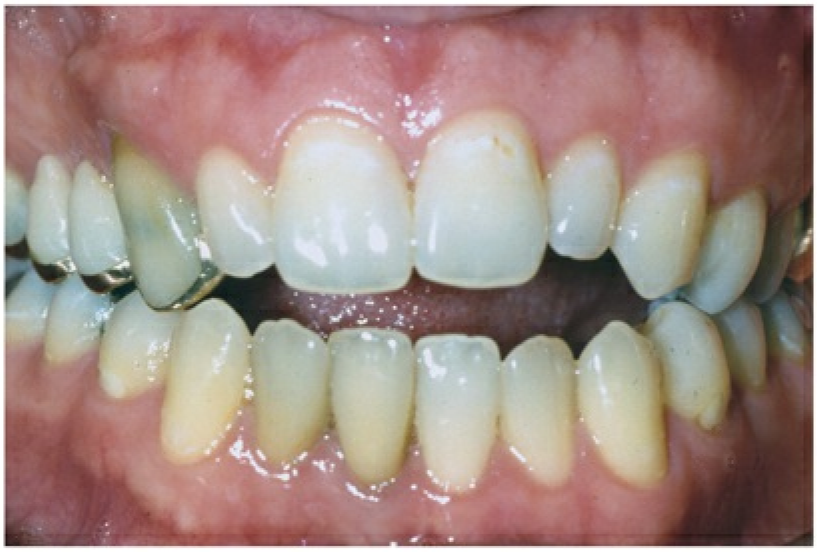
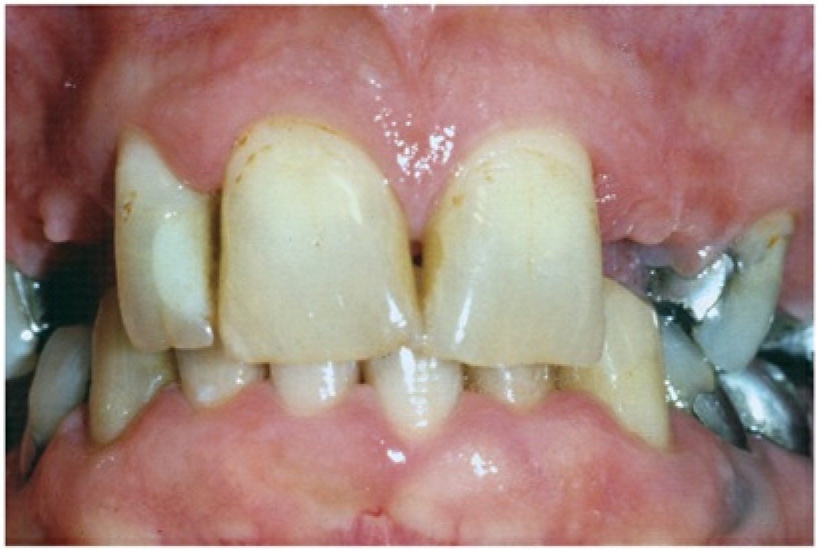


FIGURE 16-38



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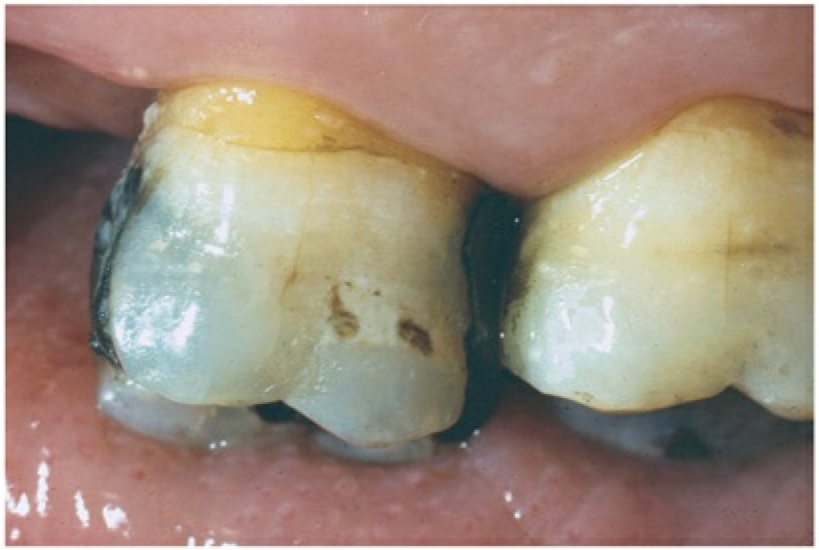


FIGURE 16-40

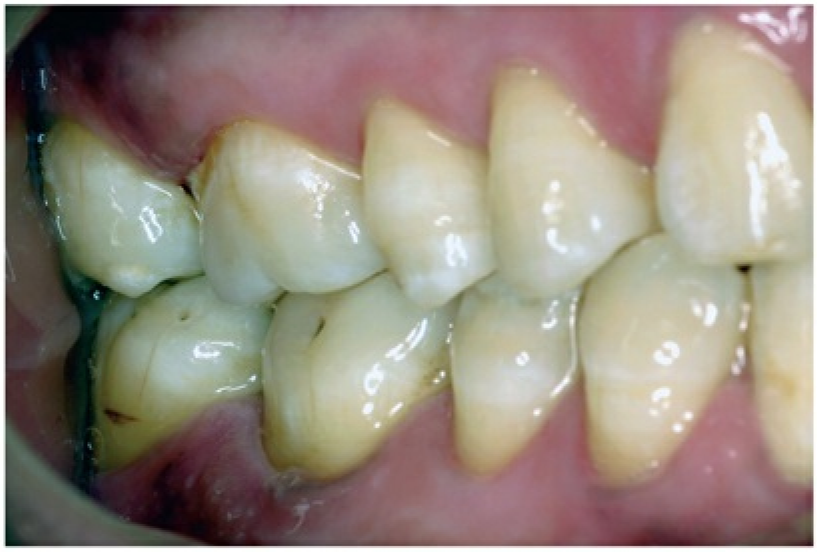


FIGURE 16-41

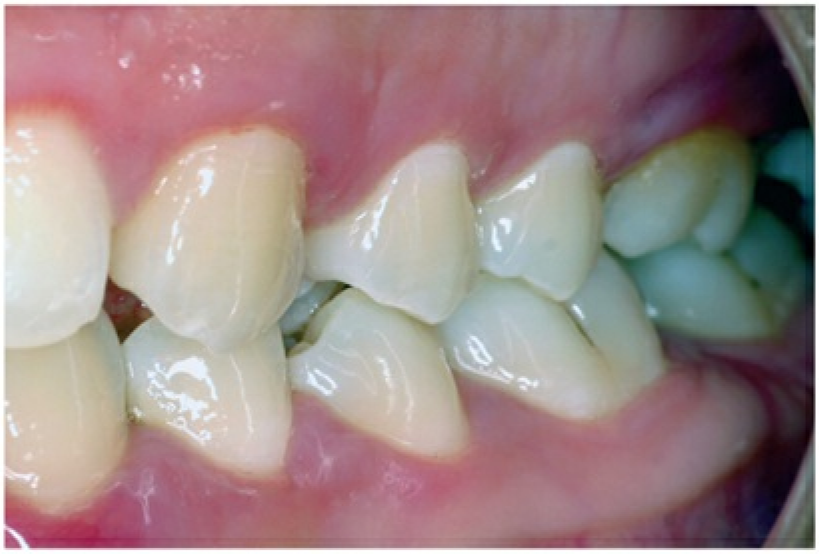
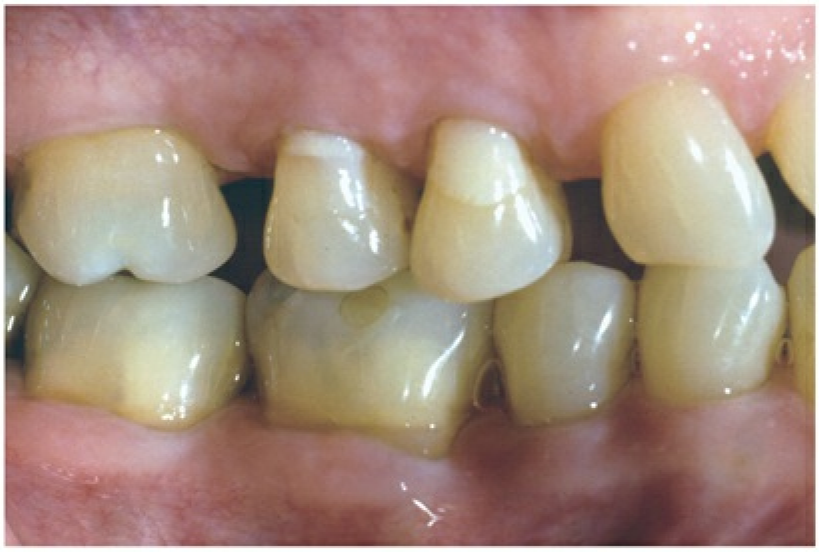


FIGURE 16-42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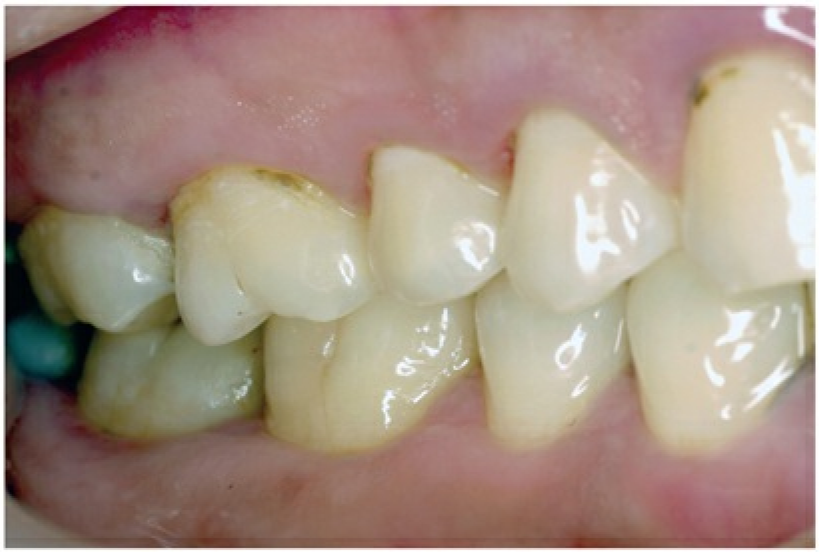
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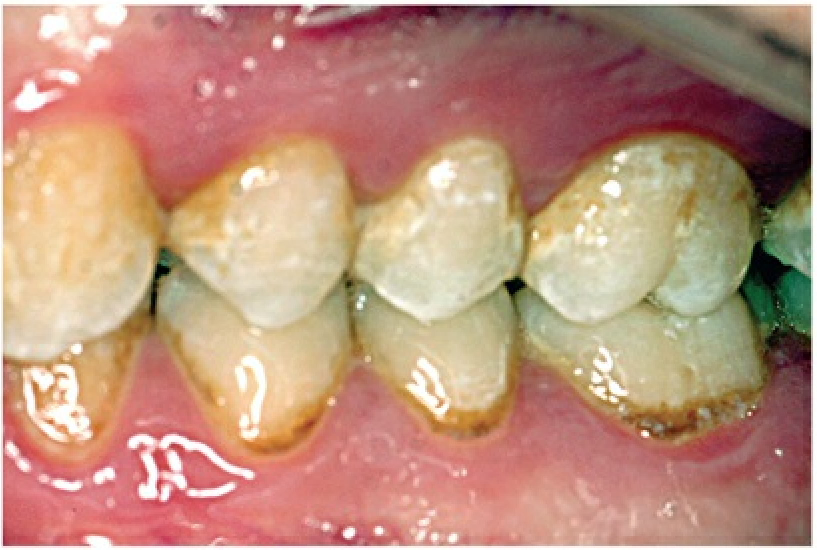


FIGURE 16-45

FIGURE 16-46

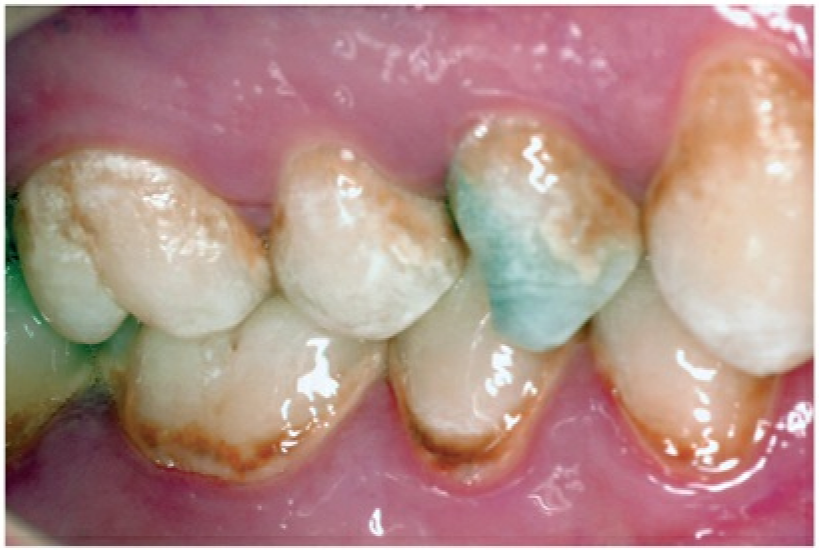
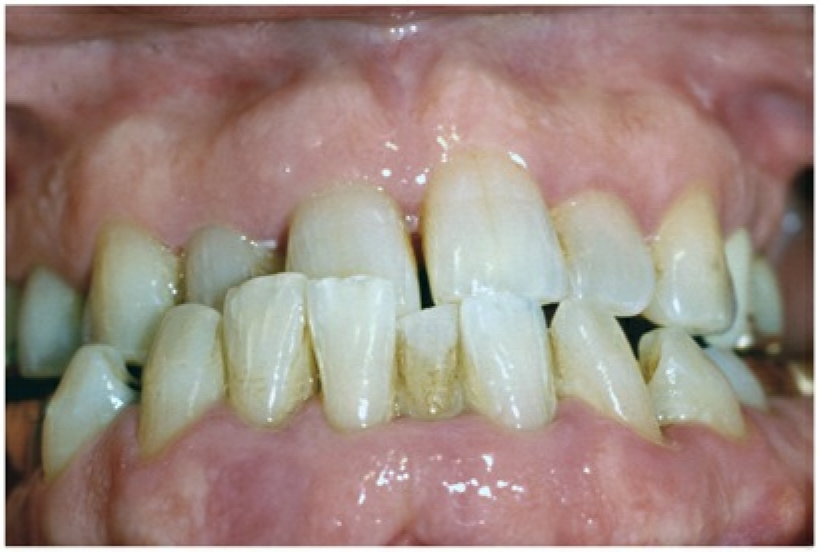


FIGURE 16-47



SECTION 9 • Skill Check

Technique Skill Checklist: Mixed Dentition

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**
Accurately identifies the primary teeth present in the dentition on the Mixed Dentition Worksheet.		
Accurately identifies the permanent teeth present in the dentition on the Mixed Dentition Worksheet.		
Accurately transfers the information to the patient chart or computerized record.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

Technique Skill Checklist: Occlusion

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	**S**	**E**

Accurately classifies the occlusion on the Occlusion Worksheet.		
Accurately notes other characteristics of malocclusion or malpositions of individual teeth on the Occlusal Worksheet.		
Accurately transfers the information to the patient chart or computerized record.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the "**S**"s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Mixed Dentition

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Explains the eruption sequence of permanent teeth to the patient and/or parent.		
Relates the eruption sequence to the teeth present in the patient’s mouth.		
Encourages patient questions.		
Answers the patient’s questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

Communication Skill Checklist: Occlusion

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.

- **Student 3 or instructor =** Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Explains the role of occlusion in the health and appearance of the dentition.		
Explains findings such as malocclusion or malpositions of individual teeth to the patient.		
Encourages patient questions.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the **"S"**s and divide by the total points possible to calculate a		

percentage grade.		

Sources of Clinical Photographs

The author gratefully acknowledges the sources of the following clinical photographs in the “Practical Focus” sections of this module.

- Figure 16-26. Dr. Marci Marano Beck, Tallahassee, FL.
- Figure 16-27. Dr. Marci Marano Beck, Tallahassee, FL.
- Figure 16-28. Dr. Marci Marano Beck, Tallahassee, FL.
- Figure 16-30. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-32. Dr. Don Rolfs, Wenatchee, WA.
- Figure 16-34. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-35. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-36. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-37. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-38. Dr. Don Rolfs, Wenatchee, WA.
- Figure 16-39. Dr. Don Rolfs, Wenatchee, WA.
- Figure 16-40. Dr. Don Rolfs, Wenatchee, WA.
- Figure 16-41. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-42. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-43. Dr. Don Rolfs, Wenatchee, WA.
- Figure 16-44. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-45. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 16-46. Dr. Richard Foster, Guilford Technical Community

College, Jamestown, NC.

- Figure 16-47. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.

MODULE
17

DENTAL RADIOGRAPHS

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

Radiographic examination of patients provides valuable information related to the presence or absence of dentally related disease. However, radiographs should never be used as the sole source for diagnosis. It is only when the information derived from the radiographic assessment is combined with a careful review of the health history and periodontal charting of soft tissue findings that radiographic information becomes a powerful diagnostic aid.

This module covers the evaluation and assessment of radiographic information involving the recognition of normal anatomic structures and evaluation of the teeth and their supporting structures. It will require recognition and discernment of differences between normal and abnormal conditions especially those relating to the assessment of the alveolar bone and periodontal structures.

If necessary, the normal radiographic anatomy and the radiographic manifestations of common dental diseases can be reviewed by referring to a dental radiology theory textbook before beginning this module.

MODULE OUTLINE

SECTION 1	**Review of Radiographic Anatomy**
SECTION 2	**Interpreting Radiographs** What to Look for and How to Look for It Four-Step Assessment Radiographic Features of Normal Alveolar Bone Recognizing Early Evidence of Alveolar Bone Loss
SECTION 3	**Peak Procedure** Procedure 17-1. Assessing Radiographs
SECTION 4	**Cone Beam Computed Tomography**
SECTION 5	**Ready References** Ready Reference 17-1. Helpful Concepts in Radiology Ready Reference 17-2. Radiographic Evidence of Bone Loss
SECTION 6	**The Human Element** Through the Eyes of an Experienced Clinician Through the Eyes of a Student English-to-Spanish Phrase List
SECTION 7	**Practical Focus—Fictitious Patient Cases** Example: Fictitious Patient Case D: Mrs. Donna Doi Example: Radiographic Evaluation for Patient Case D Fictitious Patient Case A: Mr. Alan Ascari Fictitious Patient Case C: Mr. Carlos Chavez Fictitious Patient Case E: Ms. Esther Eads
SECTION 8	**Practical Focus—Panoramic Radiographs** Panoramic Radiograph 1

Panoramic Radiograph 2
Panoramic Radiograph 3
Panoramic Radiograph 4
Panoramic Radiograph 5
Panoramic Radiograph 6

SECTION 9

Skill Check

KEY TERMS

Triangulation • Cone beam computed tomography • Cone beam volume tomography • Minimally diagnostically acceptable • Significant overlap • Rule of symmetry • Thorough assessment

OBJECTIVES

- Identify the anatomic structures commonly visible on panoramic radiographs for fictitious patients.
- Explain radiographic technique and processing errors that could affect radiographic assessment.
- Given a set of radiographs, recognize and localize the location of each radiographically visible normal anatomic landmark.
- Describe the radiographic characteristics of normal and abnormal alveolar bone.
- Recognize and describe early radiographic evidence of periodontal disease.
- Classify the degree of alveolar bone loss as “localized” or “generalized,” “slight,” “moderate,” or “severe/advanced.”
- Explain the difference between vertical and horizontal alveolar bone loss and identify each type of bone loss on radiographs of simulated patients.
- Recognize potential etiologic agents for periodontal disease radiographically.
- Briefly and succinctly summarize radiographic findings on

radiographs of simulated patients and relate them to pertinent elements from the health history, clinical charting, periodontal probing, etc.

- Gain practical experience in radiographic assessment by applying information from this module to the fictitious patient cases in this module.

SECTION 1 • Review of Radiographic Anatomy

Before attempting to interpret a set of radiographs, it is important to have an understanding of the anatomic structures visible on radiographs. This section presents a quick review of the anatomic structures readily and commonly visible on a panoramic radiograph (Figs. 17-1 and 17-2).

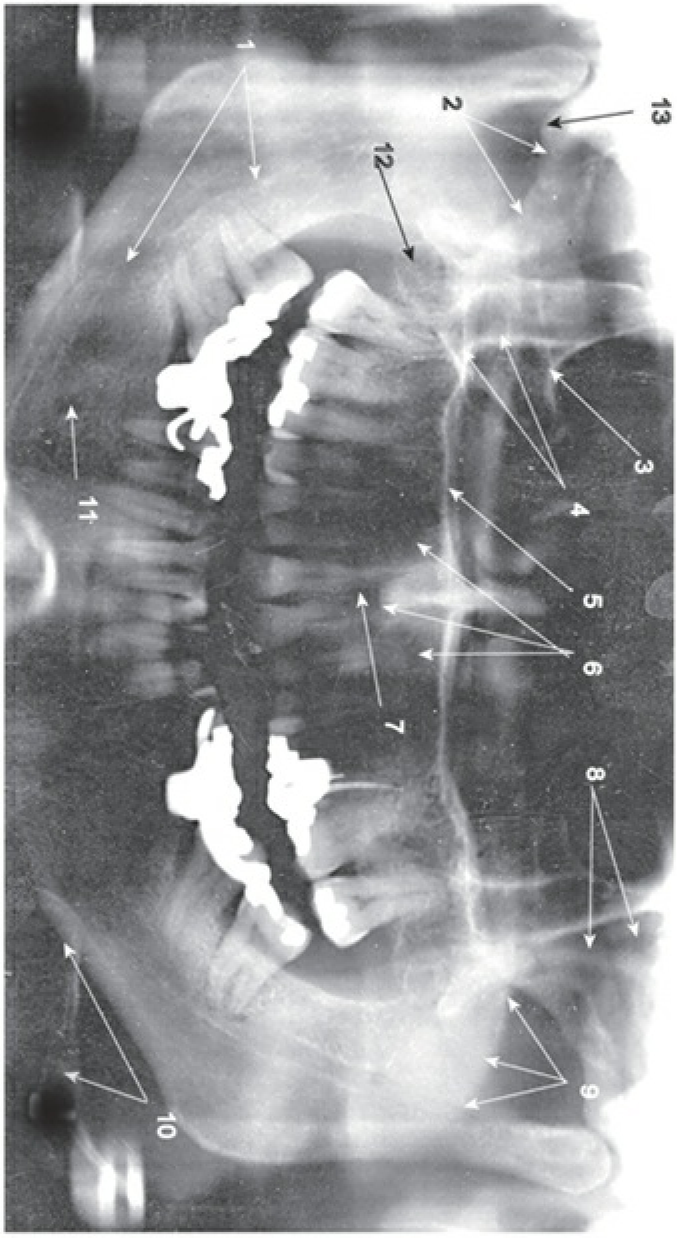


FIGURE 17-1 Panoramic radiograph of an adult patient.

Answers:

1 – mandibular canal

2 – lower border of the zygomatic arch

3 – lower border of the orbit

4 – zygomatic process of the maxilla—also known as the "malar process"

5 – hard palate

6 – shadow of the nose

7 – incisive foramen

8 – pterygomaxillary fissure

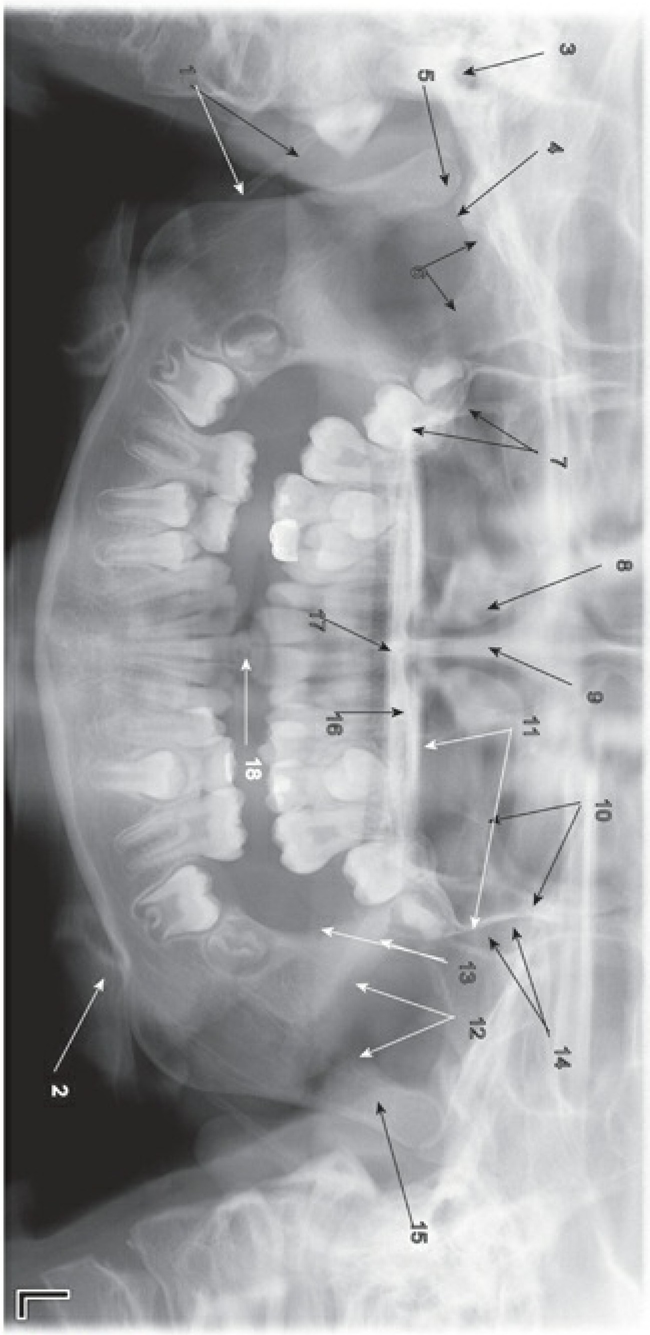
9 – shadow of the soft palate

10 – hyoid bone (may be seen bilaterally)

11 – mental foramen

12 – tuberosity of the maxilla

13 – articular eminence



Answers:

1 – stylohyoid ligament
2 – hyoid bone
3 – external auditory meatus
4 – articular eminence
5 – head of the mandibular condyle
6 – lower border of the zygomatic arch
7 – zygomatic process of the maxilla/malar process
8 – inferior concha and turbinate
9 – nasal septum
10 – inferior orbital rim
11 – maxillary sinus
12 – mandibular notch
13 – coronoid process of the mandible
14 – pterygomaxillary fissure
15 – neck of the mandibular condyle
16 – hard palate
17 – anterior nasal spine
18 – bite guide of the panoramic unit

FIGURE 17-2 **Panoramic radiograph of a pedodontic patient.**

SECTION 2 • Interpreting Radiographs

What to Look for and How to Look for It

When evaluating any radiograph—whether a single periapical, bitewing, or a complete mouth radiographic survey (CMRS)/full mouth x-ray (FMX)—perform the radiographic evaluation in a consistent, routine fashion from one time to the next. **When working with digital radiographs, remember that the information present and the interpretation process is the same as that for a conventional radiograph.** The order in which the evaluation is performed is not necessarily as critical as the consistency with which the clinician performs the task.

Four-Step Assessment

For convenience, the radiographic interpretative process can be divided into a series of steps:

- Step 1: Determine diagnostic value. Ask the question, “Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability?” Refer to the “Ready References” section of this module for a brief definition of diagnostic acceptability.
- Step 2: Recognize any significant technique or processing errors that will deter a clinician’s ability to correctly evaluate all of the relevant dental structures.
- Step 3: Recognize the “normal” anatomic structures observable on the radiographs. It is important to be able to distinguish normal structures from variations or deviations from normal. For example, the clinician should recognize the mental foramen as “normal anatomy” rather than “periapical pathology,” especially if the foramen is anatomically close to the apex of the mandibular first or second premolar.
- Step 4: Conduct a systematic and careful assessment of the teeth and their supporting tissues. The clinician must be careful not to focus on only a single condition or deviation. For example, a dental hygienist will be naturally inclined to look at the alveolar bone first. Focusing on the alveolar bone early in the search process may distract the hygienist and cause him or her to stop searching for other dentally relevant deviations and variations from normal such as calcified pulps, *dens in dente*, or periapical pathosis. To avoid this tendency to focus on the alveolar bone,

he or she should look at the bone last.

Regardless of his or her role in the dental team, the clinician should consistently examine radiographs for dental caries, periapical pathology, calcified pulps (indicators of possible prior trauma), asymmetry in pulps of similar teeth (an early loss of pulp vitality will produce a pulp that doesn't mature with age by getting smaller), changes in alveolar bone pattern from one area to another, alveolar bone height, and etiologic agents promoting dental disease, such as overhanging margins on restorations and crowns, calculus, or open contacts.

Radiographic Features of Normal Alveolar Bone

Normal alveolar bone height will vary slightly depending on the age of the patient. In general, "normal alveolar bone height" is 1.5 to 2 mm below and parallel to the cementoenamel junction (CEJ) of adjacent teeth (Fig. 17-3).

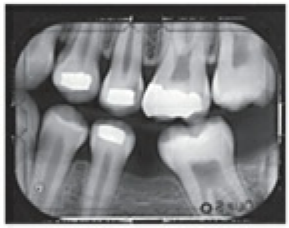


FIGURE 17-3 **Normal alveolar bone height.** This radiograph shows a normal alveolar bone height that is 1.5 to 2 mm below and parallel to the cementoenamel junction. In this example, the alveolar crest is a dense radiopaque line similar in density to the lamina dura surrounding the root of the tooth.

- The bone forming the alveolar crest should be smooth and intact with the radiolucent space adjacent to the root surface no wider than the width of the periodontal ligament space (PDLS).
- Many times, as in Figure 17-3, a distinct "crestal lamina dura" will be visible; in other words, the alveolar crest appears as a dense radiopaque line similar in density to the lamina dura surrounding the root of the tooth. The most important radiographic feature of the alveolar crest, however, is that it forms a smooth intact surface between adjacent teeth with only the width of the periodontal ligament (PDL) separating it from the adjacent tooth surface.

The most important radiographic feature of the alveolar crest is that it forms a smooth intact surface between adjacent teeth with only the width of the PDL separating it from the adjacent root surface.

Recognizing Early Evidence of Alveolar Bone Loss

Early evidence of interproximal alveolar bone loss begins as a progressively increasing area of radiolucency where the alveolar crest and PDL meet.

1. **Widening of periodontal ligament space.** Look for the earliest evidence of bone loss as a progressive widening of the PDLS as it approaches the alveolar crest (Fig. 17-4). This increasing area of radiolucency produces a triangular shape and is referred to as triangulation.

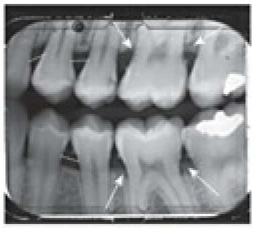


FIGURE 17-4 **Early evidence of alveolar bone loss.** The crestal bone on this radiograph demonstrates triangulation, a pointed, triangular appearance that indicates a widening of the periodontal ligament space due to bone loss.

   - **Triangulation** is the widening of the PDLS caused by the resorption of bone along either the mesial or distal aspect of the interdental (interseptal) crestal bone (Fig. 17-4).
   - Depending on the patient's self-care (oral hygiene) and other factors, this increased widening of the PDLS may be seen on the mesial or distal of a single tooth or on multiple teeth.

2. **Loss of integrity of crestal lamina dura.** An additional early radiographic sign of alveolar bone loss is a loss of the integrity of the crestal lamina dura between adjacent teeth.

SECTION 3 • **Peak Procedure**

Procedure 17-1. Assessing Radiographs

Action	Rationale

1. Determine if the radiographs are diagnostically acceptable. Ask the question, “Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability?”	• A complete mouth radiographic survey/full mouth x-ray (CMRS/FMX) should exhibit sufficient radiographic information to provide the dentist with an adequate amount of information to determine the patient’s specific treatment needs. • Usually, this means that the CMRS/FMX should show each interproximal space at least once without overlap and each root apex at least once.
2. Look for technique or processing errors. Ask the questions: • “Are there any significant technique or processing errors that will influence my ability to correctly evaluate all of the relevant dental structures?” • “What would I do to correct these errors next time?”	• Any significant technique and/or processing errors will negatively impact the clinician’s ability to evaluate all of the relevant dental structures.
3. Recognize normal structures.	• It is important to distinguish normal

	anatomic structures from variations or deviations from normal.

4. Conduct a systematic assessment of the teeth and their supporting tissues.	• Conducting the assessment in a consistent and thorough manner will assure that all aspects of the CMRS/FMX are evaluated.
	• A systematic assessment should include identification of:
	  • Teeth present/absent in the dentition
	  • Dental caries
	  • Periapical pathology or calcified pulps
	  • Asymmetry in pulps of similar teeth
	  • Changes in alveolar bone pattern from one area to another
	  • Alveolar bone height
	  • Etiologic agents promoting dental disease, such as overhanging margins on restorations and crowns, calculus deposits, open contacts

5. Place radiographs in the	• At the start of each

patient chart or computerized record for use at all appointments.	appointment, place the radiographs on a chairside view box or display them on a computer screen. • Radiographs provide useful information during treatment and patient education.

SECTION 4 • Cone Beam Computed Tomography

One amazing new dental radiographic technology is called **cone beam computed tomography** (CBCT) or **cone beam volume tomography** (CBVT). These very sophisticated imaging systems ultimately may completely replace the need for intraoral, panoramic, or other extraoral radiographic imaging techniques. With this technology, or advances in this current technology, individuals reading this paragraph will witness a time in the not-too-distant future when all that will be necessary to diagnostically image a patient will be to have him or her sit in a chair, stabilize his or her head in some minimal way, and activate the unit similar to exposing a panoramic radiograph today. Image capture will take less than 20 seconds and show up on our computer screen within 2 to 4 minutes. The software will automatically create a three-dimensional view of the patient from any desired angle. The details of the images will surpass any of our current extraoral imaging systems and be approximately equivalent to our better than our intraoral radiographs.

Space does not permit a detailed explanation of CBCT principles, but in its simplest form, the CBCT unit produces an adjustable beam of radiation and exposes an area of the patient’s head as small as 4 cm × 4 cm up to 15 cm × 15 cm (essentially the whole head). In less than 20 seconds, the unit uses a pulsed radiation exposure to expose the patient’s head in a 360-degree circle. During its rotation around the patient’s head, the unit will expose more than 500 individual images of the patient’s head; these individual images are called “basis images.” Computer software takes these 500+ images and creates small discrete image volumes, called “voxels,” that the software can reassemble into sagittal, coronal, and axial images of the patient’s head. The voxels vary in size from 0.09 to 0.45 mm and will determine the overall resolution of the image we are viewing.

Currently, CBCT units designed specifically for dental purposes may seem expensive; however, when compared to the cost of medical CBCT and CT units, they are relatively inexpensive and provide truly amazing detail not available in any other dental imaging system. Examples of CBCT volumes are shown in Figures 17-5 to 17-10.

Figures 17-5A–E represent the detail associated with a “small-volume” CBCT unit with a voxel size of 0.125 mm. Observe the exquisite bony detail depicted in this case of cementifying fibroma. Even though these are motionless images, the software permits moving the section we view in increments of 0.25 to 1 mm (Figs. 17-5C–E) or more in any direction within three-dimensional space in real time. The thicknesses of the section below are 1 mm thick.

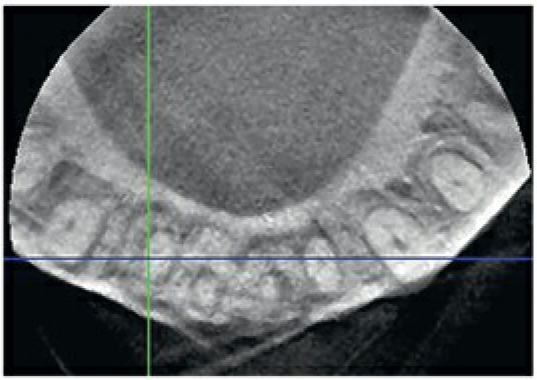


FIGURE 17-5A

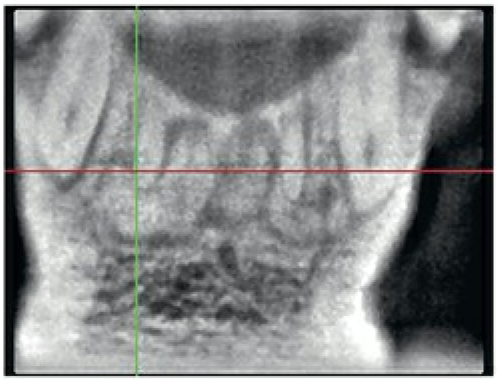


FIGURE 17-5B

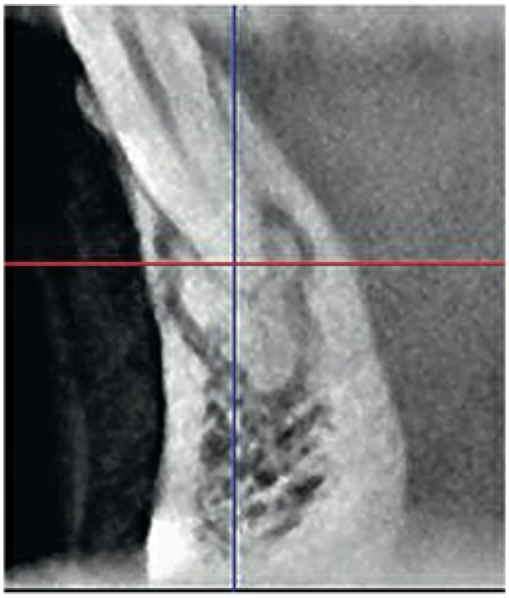


FIGURE 17-5C

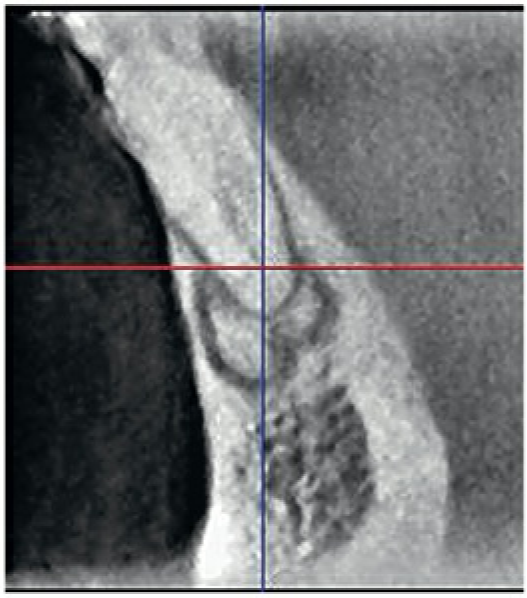


FIGURE 17-5D

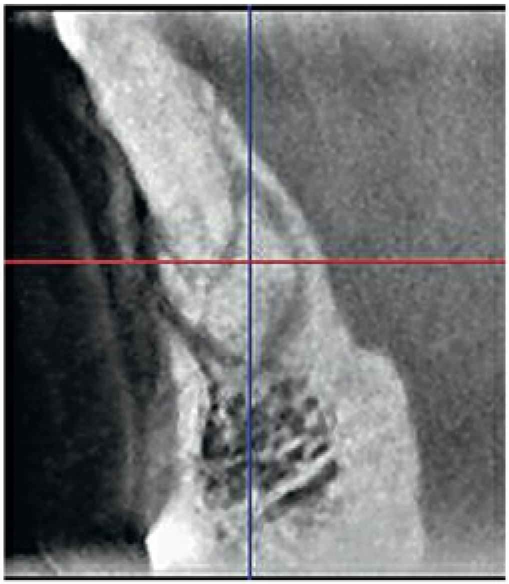


FIGURE 17-5E

One of the major benefits of CBCT is their use in precisely identifying the quality and thickness of bone in prospective implant sites as well as clearly identifying and delineating areas of pathology. The technology also provides uncompromised detail for evaluating potential root fractures; potential complications associated with symptomatic endodontically treated teeth; or presurgical evaluation of impacted third molars and their relationship to adjacent teeth, maxillary sinus, or mandibular canal.

The sections shown below in Figures 17-6A–C illustrate a small odontoma located between and lingual to the canine and first premolar.

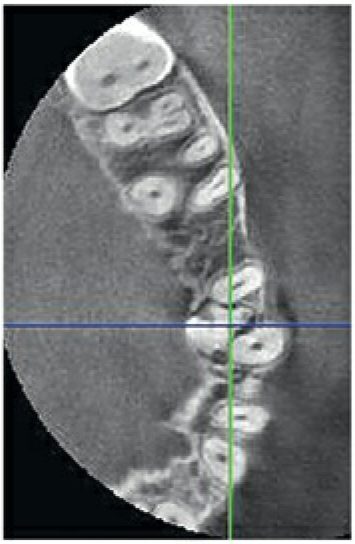


FIGURE 17-6A

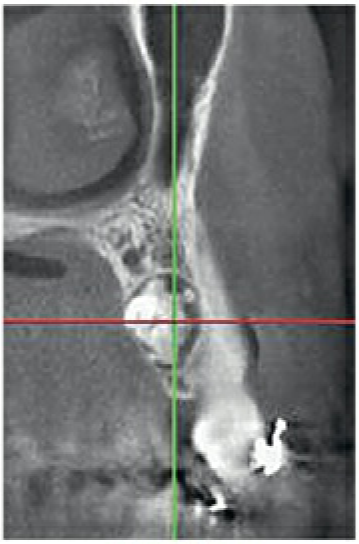


FIGURE 17-6B

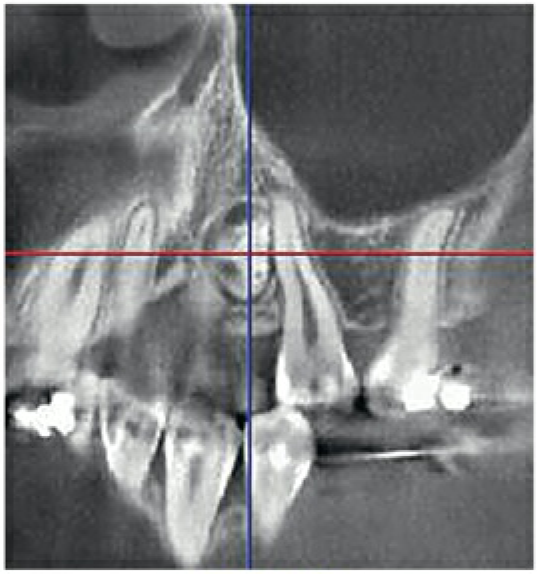


FIGURE 17-6C

Figures 17-7A and B are example of an acute maxillary sinusitis; note the small bubbles in the fluid filling the sinus.

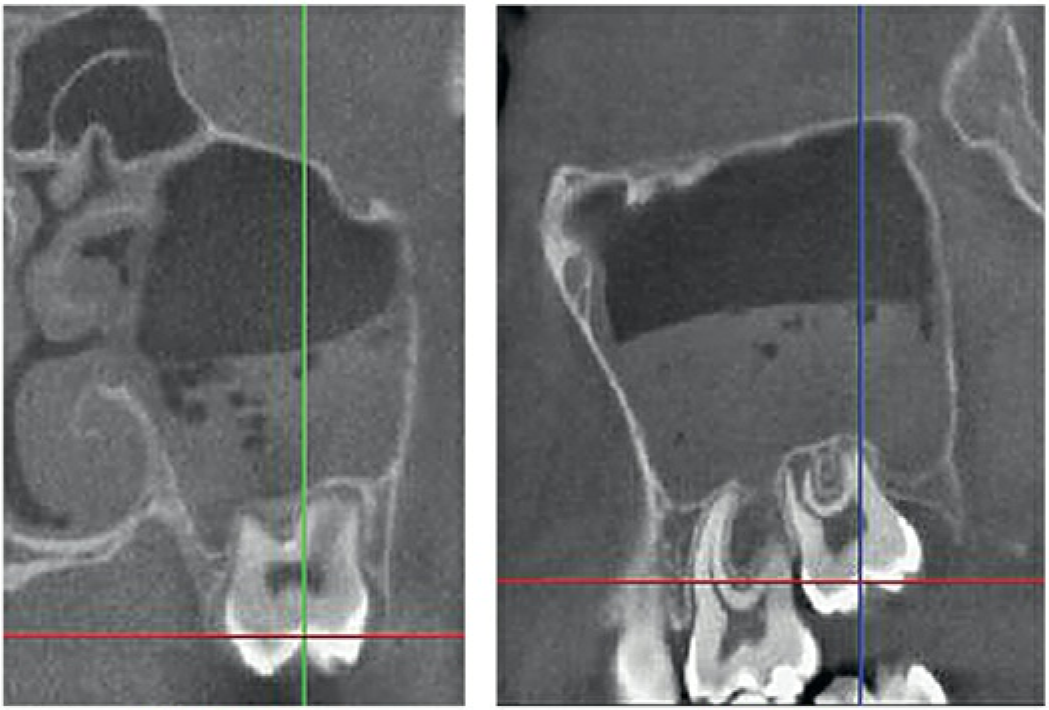


FIGURE 17-7A FIGURE 17-7B

Figures 17-8A and B show how clearly endodontic problems are depicted in the CBCT images; note the resorption of the root apex of the second premolar.

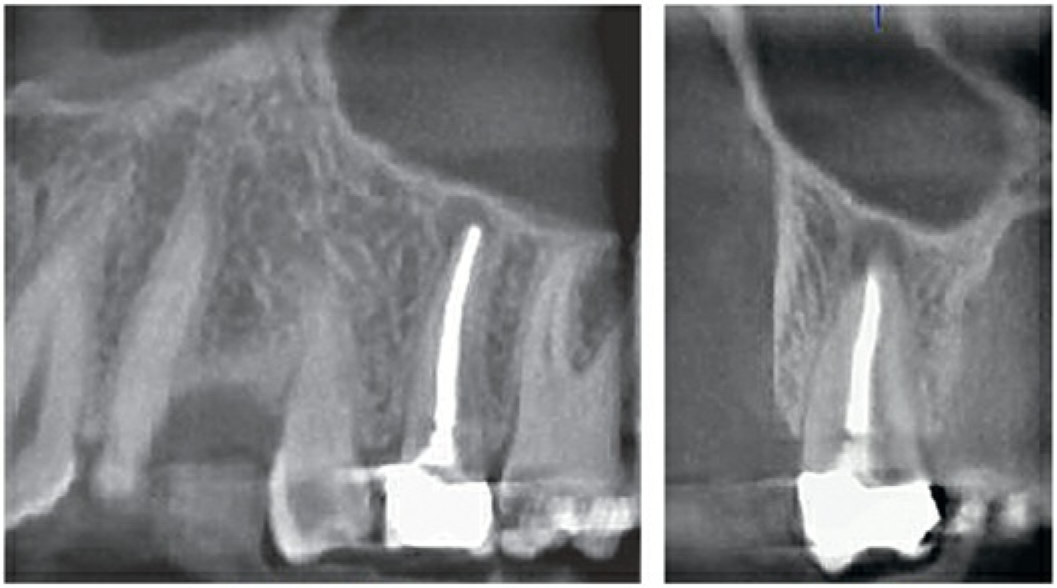


FIGURE 17-8A FIGURE 17-8B

Figure 17-9 shows a recent extraction with bone graft material in the extraction socket. Distal to the extraction socket is a well-circumscribed "mixed" lesion (combination of radiolucent and radiopaque features) indicative of some type of residual pathology; the inferior portion of the lesion has eroded the superior border of the mandibular canal.

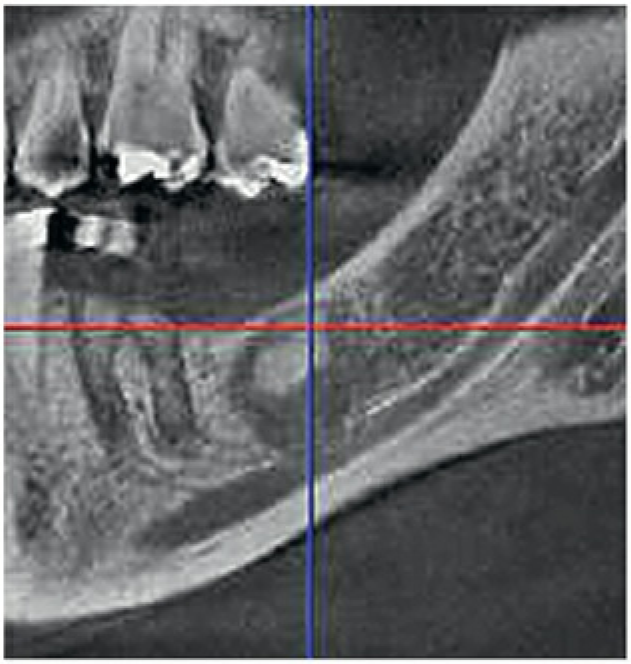


FIGURE 17-9 Recent extraction.

Figure 17-10A–C illustrate an example of a "large-volume" CBCT unit that can be used to evaluate the entire oral–maxillofacial complex. Large-volume CBCT images may be used in three-dimensional analysis of the maxillofacial complex in pretreatment and posttreatment planning for orthognathic surgery and orthodontic treatment as well as multiple implant site planning.

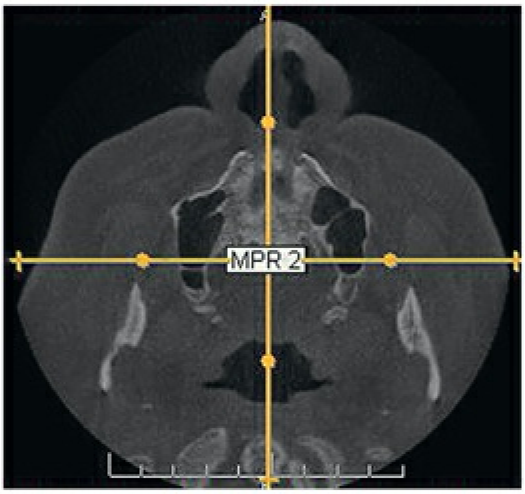


FIGURE 17-10A

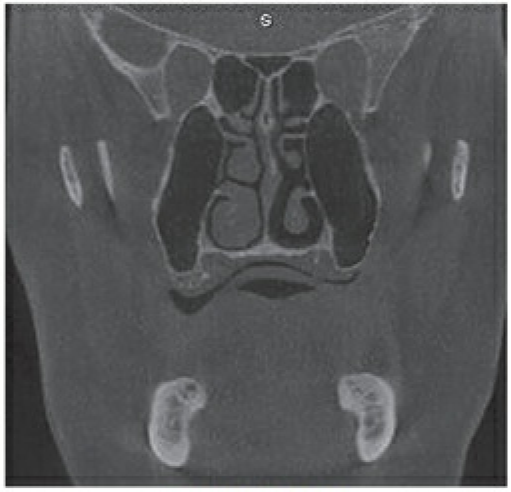


FIGURE 17-10B

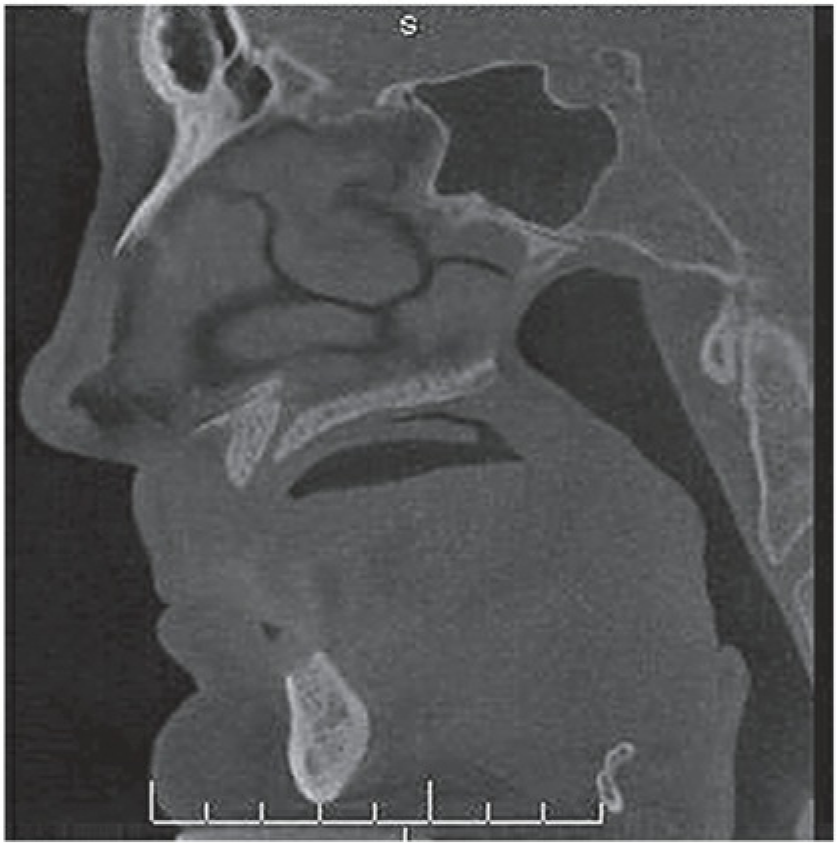


FIGURE 17-10C **Image from large-volume cone beam computed tomography (CBCT) unit.** An example of a CBCT image used to evaluate the entire oral–maxillofacial complex.

SECTION 5 • Ready References

Ready Reference 17-1. Helpful Concepts in Radiology

Minimally diagnostically acceptable—with reference to a CMRS/FMX, at the very least, each interproximal space should be visible somewhere without significant overlap and each root apex should be visible. **Significant overlap** is an overlap that is more than one-half the width of the enamel or obscures the dentinoenamel junction (DEJ).

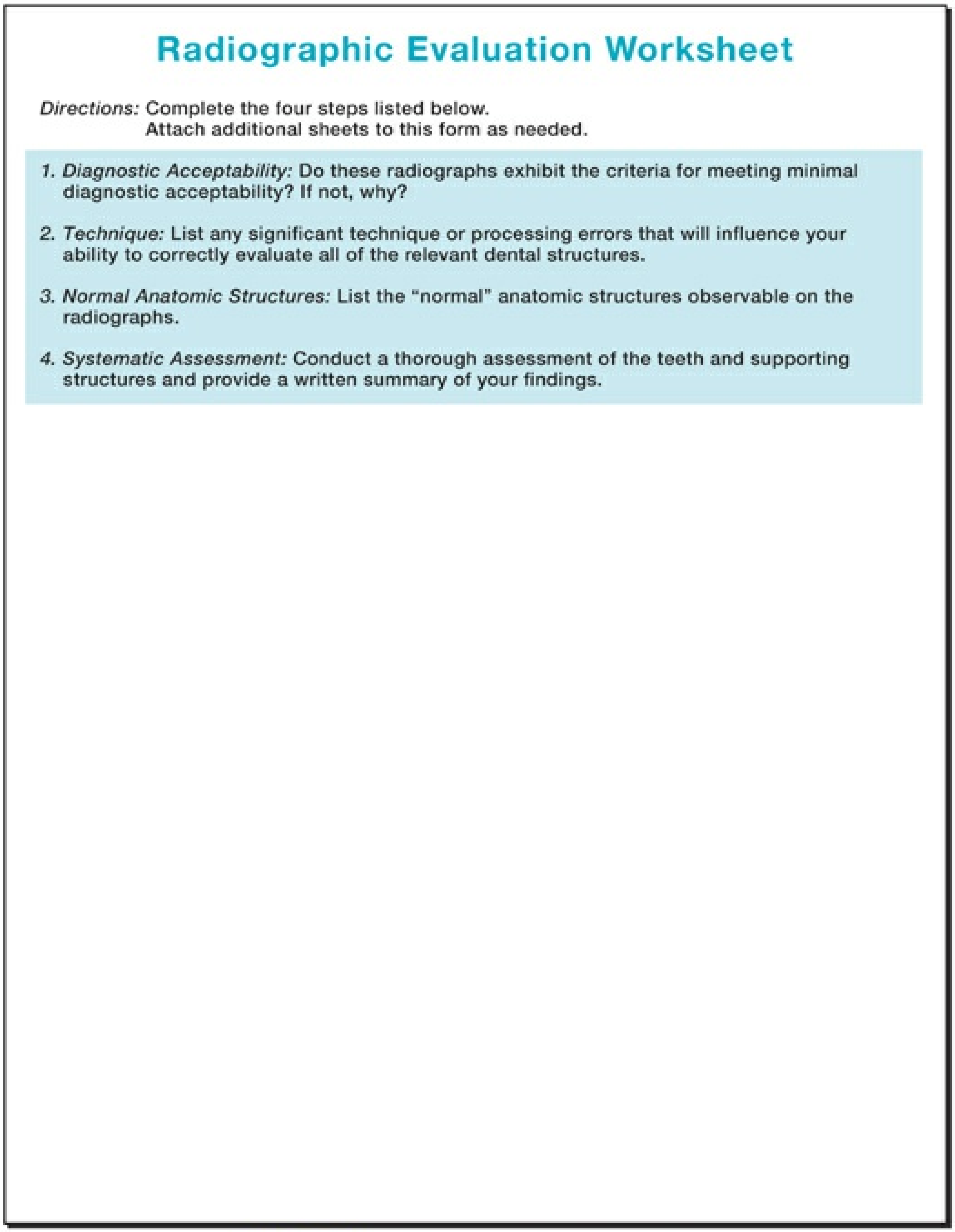
Rule of symmetry—or right side/left side check—is based upon the principle that most human beings are symmetrical in appearance; that is, the right side looks like the left side.

- **EXAMPLE: Assessing for periapical pathology:**
  - When assessing for the presence of periapical pathology, the clinician should first look at the apex of the right first molar and then immediately compare it to the apex of the left first molar.
  - When evaluating symmetry, the question the clinician should ask is, "Does the right root look like the left?"
  - If the answer is "yes, they both look alike," then the roots are probably normal.
  - If the answer is "no," then the question becomes "why not?" The clinician's task is to identify what makes one root apex different from the one on the opposite side of the mouth.
- Continue assessing the right and left sides in this manner. For example, if you see caries on the mesial surface of the right maxillary second premolar, immediately look at the mesial surface of the left maxillary second premolar. This technique really works, and you will be amazed at how many deviations and variations you will find if you persist in using this strategy.

Thorough assessment—a thorough assessment involves looking for more than caries and periodontal disease.

- A quick glance at any pathology textbook or the relevant sections of your radiology textbook will reveal a vast array of conditions that can manifest in the oral cavity in a many subtle and not-so-subtle ways.

- It is appropriate that your radiographic assessment be sufficiently sensitive and thorough such that you can identify deviations and variations from normal.
- The rule of symmetry method of evaluating individual teeth and/or areas of the jaw is a highly effective strategy.



Radiographic Evaluation Worksheet

Directions: Complete the four steps listed below.
Attach additional sheets to this form as needed.

1. *Diagnostic Acceptability:* Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability? If not, why?
2. *Technique:* List any significant technique or processing errors that will influence your ability to correctly evaluate all of the relevant dental structures.
3. *Normal Anatomic Structures:* List the "normal" anatomic structures observable on the radiographs.
4. *Systematic Assessment:* Conduct a thorough assessment of the teeth and supporting structures and provide a written summary of your findings.

FIGURE 17-11 Radiographic evaluation worksheet.

Ready Reference 17-2. Radiographic Evidence of Bone Loss

Radiographic Evidence of the Extent of Bone Loss

- **Slight**—the crest of the alveolar bone is approximately 3–4 mm apical to the CEJ.
- **Moderate**—crest of the alveolar bone is approximately 4–5 mm apical to the CEJ.
- **Severe/advanced**—crest of the alveolar bone is more than 5 mm apical to the CEJ or the bone covers less than one-half of the anatomic root length as measured from the CEJ to the root apex.

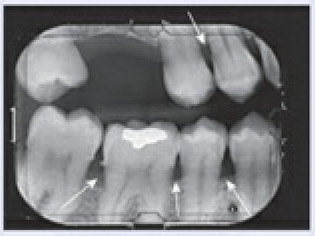


FIGURE 17-12A Slight bone loss.

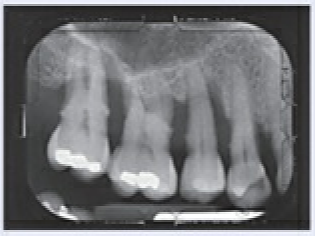


FIGURE 17-12B Severe bone loss.

Radiographic Evidence of the Distribution of Bone Loss

- **Generalized**—bone loss involving more than 50% of the erupted teeth in one arch
- **Localized**—bone loss involving fewer than 50% of the erupted teeth in one arch
- When noting such conditions in the patient's record, it is appropriate to identify where the localized lesions occur—such as "mandibular R & L central and lateral incisor region."

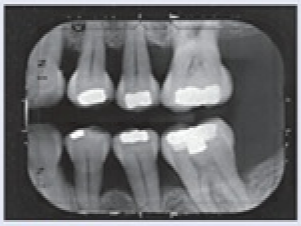


FIGURE 17-12C Generalized bone loss.

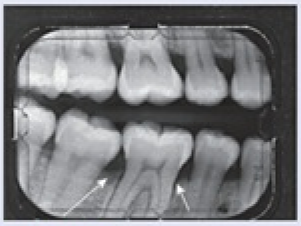


FIGURE 17-12D Localized bone loss.

Radiographic Evidence of the Patterns of Bone Loss

- **Horizontal pattern of bone loss**—is a fairly uniform reduction in the height of the bone radiographically throughout an arch or quadrant.

- **Vertical pattern of bone loss**—is an uneven pattern of bone loss that typically involves a single tooth: This uneven pattern of bone loss leaves a trench-like area of missing bone alongside the root.

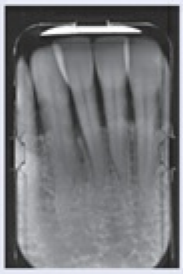


FIGURE 17-12E **Horizontal pattern.**

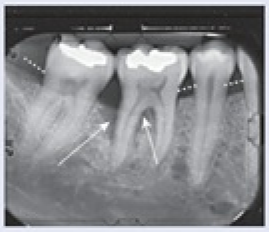


FIGURE 17-12F **Vertical pattern.**

SECTION 6 • The Human Element

Through the Eyes of an Experienced Clinician

HELPFUL TIPS

Limitations of Radiographs

Keep in mind the fact that periapical and interproximal/bitewing radiographs are two-dimensional representations of a three-dimensional object and the changes in alveolar bone facial or lingual to the tooth may be obscured by the superimposition of the tooth and the overlying alveolar bone. In addition, alveolar bone height will vary depending upon the radiographic technique used to capture the image; in general, bisecting-angle radiographs will produce more distortion of the tooth and alveolar bone compared to radiographs obtained using the paralleling principle.

Key Features of Radiographic Accuracy

Key features of radiographic accuracy to look for prior to attempting any interpretation, especially of alveolar bone height are:

- Radiographic superimposition of the buccal and lingual cusp tips on posterior teeth
- Absence of interproximal overlap potentially obscuring the cementoenamel junction (CEJ)
- Radiographs of sufficient density (darkness) to permit identification of the CEJ

Using Radiographs in Patient Education

Note: The radiographs on patient A can be extremely useful in educating the patient regarding the extent and severity of his or her existing disease. For example, the big easily discerned chunks of calculus on the interproximal spaces can be useful in explaining the "inflammatory" nature of the periodontal disease process—if you have patients, consider the relationship of a splinter in their finger with the subsequent reddening and potential infection should the splinter not be removed in a timely fashion. Similarly, calculus can be portrayed as causing a similar effect in the gum tissues as that of a splinter. The patient should be able to recognize bone loss in the posterior areas of the maxilla if you identify the CEJ as the level where the bone level should be "normally."

Mastering Radiographic Interpretation

As a beginning student of radiographic interpretation, it is easy to feel overwhelmed by the importance of recognizing sometimes very subtle changes in bony architecture that can have important consequences in terms of patient care and treatment. As with any skill development, it will take time and patience. Develop a systematic approach to analyzing your radiographs so that you know you are covering all of the essential elements. You may wish to start by developing a "checklist" of normal anatomic structures and another list of deviations and variations from normal that have clinical implications: caries, calculus, calcified pulps, *dens in dente*, periapical radiolucencies/radiopacities, etc., simply as a reminder to look for each of these things. With repetition and implementation of the rule of symmetry, you will find your radiographic assessment skills will increase significantly.

Through the Eyes of a Student

TEAM SPIRIT

Effective dental teams work together to provide excellent care. This includes helping other team members when necessary. As a dental hygienist, you need to be aware of your own limitations as well as knowing the strengths and limitations of other team members. Mutual support and cooperation is an important behavior for the dental team. In the school setting, instructors and students are a source of cooperation and support.

- Identify instances in which you felt you needed assistance in completing a task, such as completing an assignment in a chemistry or dental materials lab.
- Who did you ask to assist you?
- What influenced your decision to ask this person?
- What is your response when you notice another student needs assistance?
- Discuss how dentists, assistants, hygienists, and office managers can work together to improve patient care.

English-to-Spanish Phrase List

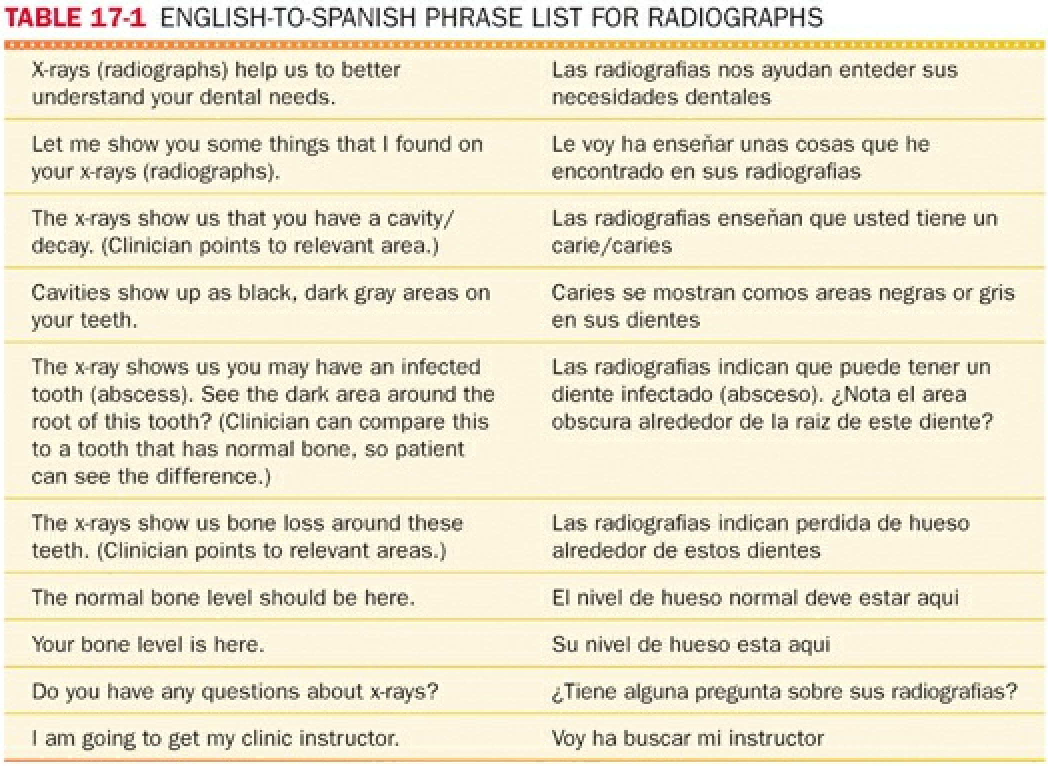


TABLE 17-1 ENGLISH-TO-SPANISH PHRASE LIST FOR RADIOGRAPHS

X-rays (radiographs) help us to better understand your dental needs.	Las radiografias nos ayudan enteder sus necesidades dentales
Let me show you some things that I found on your x-rays (radiographs).	Le voy ha enseñar unas cosas que he encontrado en sus radiografias
The x-rays show us that you have a cavity/decay. (Clinician points to relevant area.)	Las radiografias enseñan que usted tiene un carie/caries
Cavities show up as black, dark gray areas on your teeth.	Caries se mostran comos areas negras or gris en sus dientes
The x-ray shows us you may have an infected tooth (abscess). See the dark area around the root of this tooth? (Clinician can compare this to a tooth that has normal bone, so patient can see the difference.)	Las radiografias indican que puede tener un diente infectado (absceso). ¿Nota el area obscura alrededor de la raiz de este diente?
The x-rays show us bone loss around these teeth. (Clinician points to relevant areas.)	Las radiografias indican perdida de hueso alrededor de estos dientes
The normal bone level should be here.	El nivel de hueso normal deve estar aqui
Your bone level is here.	Su nivel de hueso esta aqui
Do you have any questions about x-rays?	¿Tiene alguna pregunta sobre sus radiografias?
I am going to get my clinic instructor.	Voy ha buscar mi instructor

SECTION 7 • Practical Focus—Fictitious Patient Cases

DIRECTIONS

- This section shows the radiographs for four fictitious patients A, C, D, and E.
- The first patient, Donna Doi's radiographs provide an example of a thorough evaluation using the steps outlined in Procedure 17-1 in this module. Use Procedure 17-1 and the Radiograph Evaluation Worksheet to assess the radiographs for the remaining fictitious patient cases, patients A, C, and E.
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.
- **Note:** The clinical photographs and radiographs in a fictitious patient case are for illustrative purposes but not necessarily from the same individual. The fictitious patient cases are designed to enhance the learning experiences associated with each case.

Example: Fictitious Patient Case D: Mrs. Donna Doi

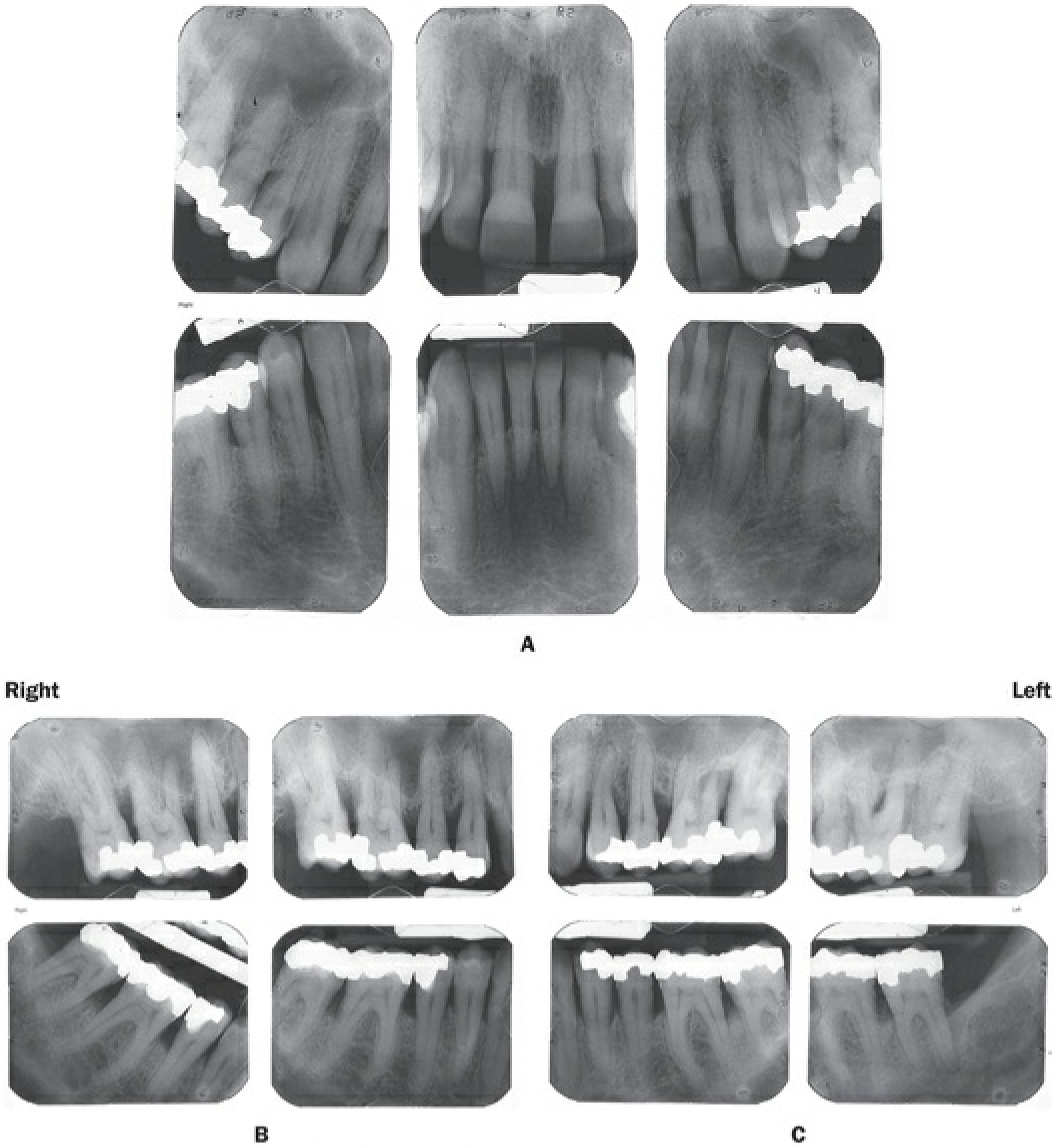


FIGURE 17-13A–C Radiographs for Mrs. Doi.

Example: Radiographic Evaluation for Patient Case D

1. **Diagnostic Acceptability.** Ask the question, “Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability?” If not, why not?
   - This series of radiographs consists of 14 periapical radiographs. There

are no interproximal/bitewing radiographs available.

- The paralleling principle was used, and there is good superimposition of the cusp tips suggesting minimal image distortion.
- Each interproximal space may be seen at least once—somewhere. However, each root apex is not visible at least once; the distal root of the right mandibular second molar is not visible.
- **Conclusion: No, the set of radiographs does not exhibit minimal diagnostic acceptability**. We would need to retake the mandibular right molar periapical radiograph. Note: Several of the individual radiographs exhibit rather severe horizontal overlapping of interproximal spaces; you might feel that the interproximal space of the maxillary left first and second molar is not adequately open, but the chapter author considers this to be "minimally" acceptable but not ideal.

2. **Technique.** Ask the question, "Are there any significant technique or processing errors that will influence my ability to correctly evaluate all of the relevant dental structures?"
   - There are no obvious processing errors, but several of the periapical radiographs exhibit less than optimal film placement: For example, the maxillary and mandibular right and left canine regions do not center the canines well; the maxillary central incisor radiograph is slightly off center, but this doesn't affect the diagnostic value, only the "esthetic" value of the radiograph.
   - The mandibular right molar periapical is tipped cutting off the apices of the premolars; however, these apices are visible on the premolar radiograph.
   - The maxillary left molar periapical exhibits severe overlap of all interproximal spaces.

     Problem Solving: Is the overlap of the maxillary left molar radiograph due to excessive horizontal angulation from the mesial or distal? How can you tell? (Hint: Look up "Clark's technique/shift-shot/buccal-object rule" in your textbook if you don't know.)

3. **Normal Anatomic Structures.** Recognize the “normal” anatomic structures observable on the radiographs. Radiographically visible “normal” anatomic structures on each of the radiographs include:
   - Maxillary right molar: maxillary sinus, lower border of the maxillary sinus, tuberosity of the maxilla
   - Maxillary right premolar: maxillary sinus, anterior, and lower border of the maxillary sinus
   - Maxillary right canine: Large portion of the maxillary sinus and anterior border of the maxillary sinus, a small portion of the lower border of the nasal fossa may be seen along the upper mesial corner of the radiograph.
   - Maxillary central incisor: Incisive foramen is easily seen between the two central incisors, tiny bit of the anterior nasal spine; the nasal fossa and the lower border of the nasal fossa are not easily discerned; a faint radiopacity corresponding to the tip of the nose may also be seen. The lip line is discernible along the central and lateral incisal edges.
   - Maxillary left canine: anterior portion and border of the maxillary sinus
   - Maxillary left premolar: maxillary sinus, lower and anterior border of the maxillary sinus
   - Maxillary left molar: maxillary sinus, lower border of the maxillary sinus, tuberosity of the maxilla, coronoid process of the mandible
   - Mandibular right molar: external oblique line (distal to second molar); a small portion of the submandibular fossa is visible along the lower distal corner of the radiograph.
   - Mandibular right premolar: none noted
   - Mandibular right canine: The submandibular fossa may be slightly visible due to angulation at the lower distal edge of the radiograph; no other anatomic structures noted.
   - Mandibular central incisor: Genial tubercles are barely visible at the bottom of the radiograph. Nutrient canals are visible as thin vertical radiolucent lines.
   - Mandibular left canine: The mental foramen is visible between the

apex of the second premolar and first molar.

- Mandibular left premolar: none noted, possibly the submandibular fossa along the lower distal edge of the film
- Mandibular left molar: external oblique line, mandibular canal

4. **Systematic Assessment.** Conduct a thorough assessment of the teeth and supporting structures and provide a written summary of your findings.

   There were no significant deviations or variations in the symmetry of pulp chambers, no periapical radiolucencies were noted, restorations appear to be clinically acceptable, and no open contacts or significantly rotated teeth. Heavy calculus deposits were noted in all four quadrants, and there is generalized moderate-to-severe alveolar bone loss throughout the mandible and maxilla. Bone loss is especially severe around the distal buccal roots of the maxillary right and left first molars. Increased radiolucency in the trifurcations of the maxillary first molars and maxillary right second molar; the bifurcation of the mandibular right second molar exhibits an increased radiolucency and the PDL in the bifurcation area is radiographically more prominent when compared to the other mandibular molar teeth (rule of symmetry).

Problem Solving Answer: *If you identified the excessive horizontal overlap of the interproximal spaces as due to excessive horizontal angulation due to positioning the central ray of the x-ray unit too far from the* ***distal****, you are correct. According to Clark's rule, objects on the lingual move in the direction of tube shift. If you look closely at the position of the first molar root apices, the lingual and distal-buccal roots are superimposed. Excessive angulation from the mesial would cause the mesial-buccal and lingual roots to overlap.*

Fictitious Patient Case A: Mr. Alan Ascari

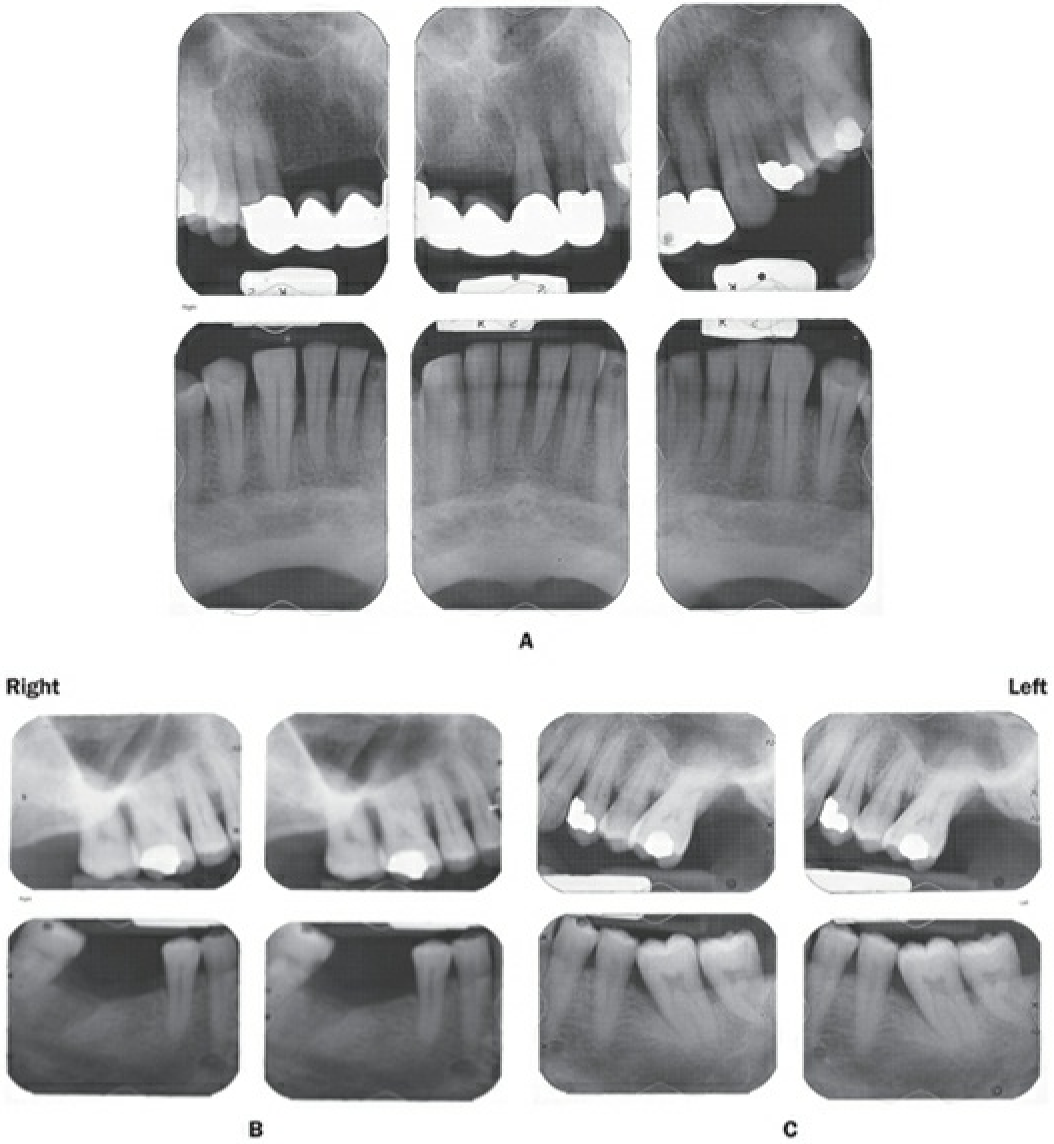
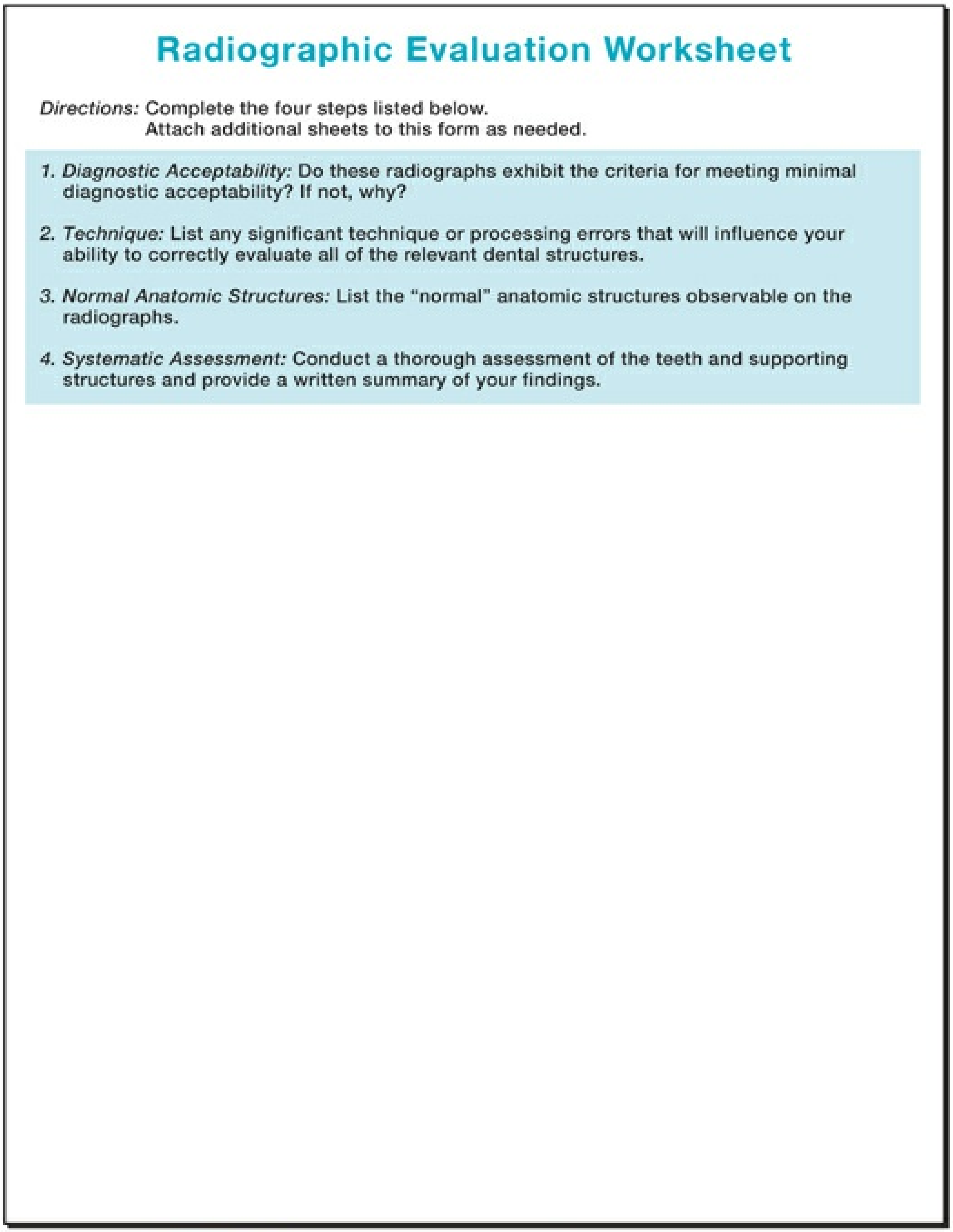

A
Right
Left
B
C

FIGURE 17-14A–C Radiographs for Mr. Ascari.



Radiographic Evaluation Worksheet

Directions: Complete the four steps listed below.
Attach additional sheets to this form as needed.

1. *Diagnostic Acceptability:* Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability? If not, why?
2. *Technique:* List any significant technique or processing errors that will influence your ability to correctly evaluate all of the relevant dental structures.
3. *Normal Anatomic Structures:* List the “normal” anatomic structures observable on the radiographs.
4. *Systematic Assessment:* Conduct a thorough assessment of the teeth and supporting structures and provide a written summary of your findings.

FIGURE 17-15 **Radiographic Evaluation Worksheet for Mr. Ascari.**

Fictitious Patient Case C: Mr. Carlos Chavez

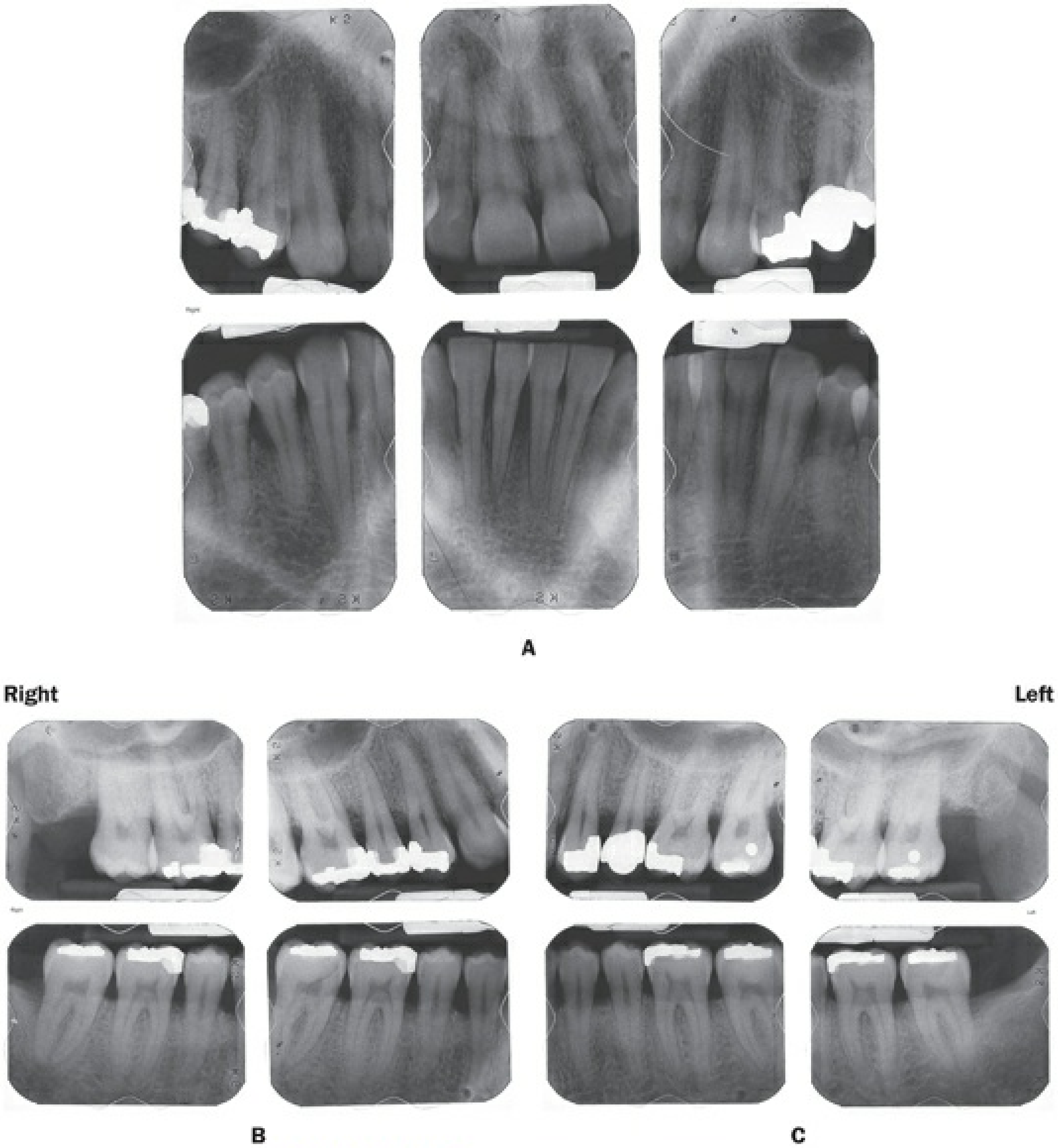
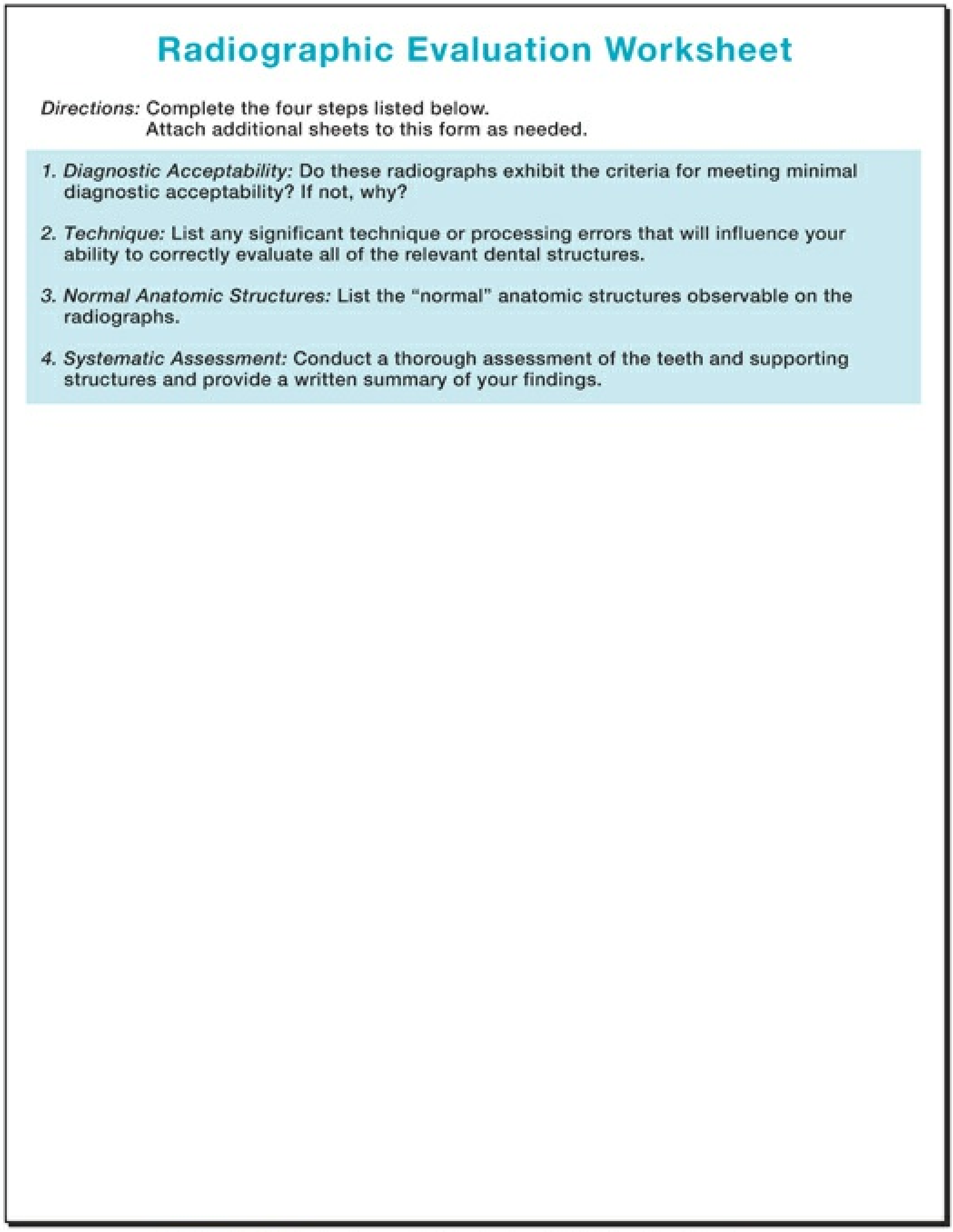

A
Right
Left
B
C

FIGURE 17-16A–C Radiographs for Mr. Chavez.



Radiographic Evaluation Worksheet

Directions: Complete the four steps listed below.
Attach additional sheets to this form as needed.

1. *Diagnostic Acceptability:* Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability? If not, why?
2. *Technique:* List any significant technique or processing errors that will influence your ability to correctly evaluate all of the relevant dental structures.
3. *Normal Anatomic Structures:* List the "normal" anatomic structures observable on the radiographs.
4. *Systematic Assessment:* Conduct a thorough assessment of the teeth and supporting structures and provide a written summary of your findings.

FIGURE 17-17 Radiographic Evaluation Worksheet for Mr. Chavez.

Fictitious Patient Case E: Ms. Esther Eads

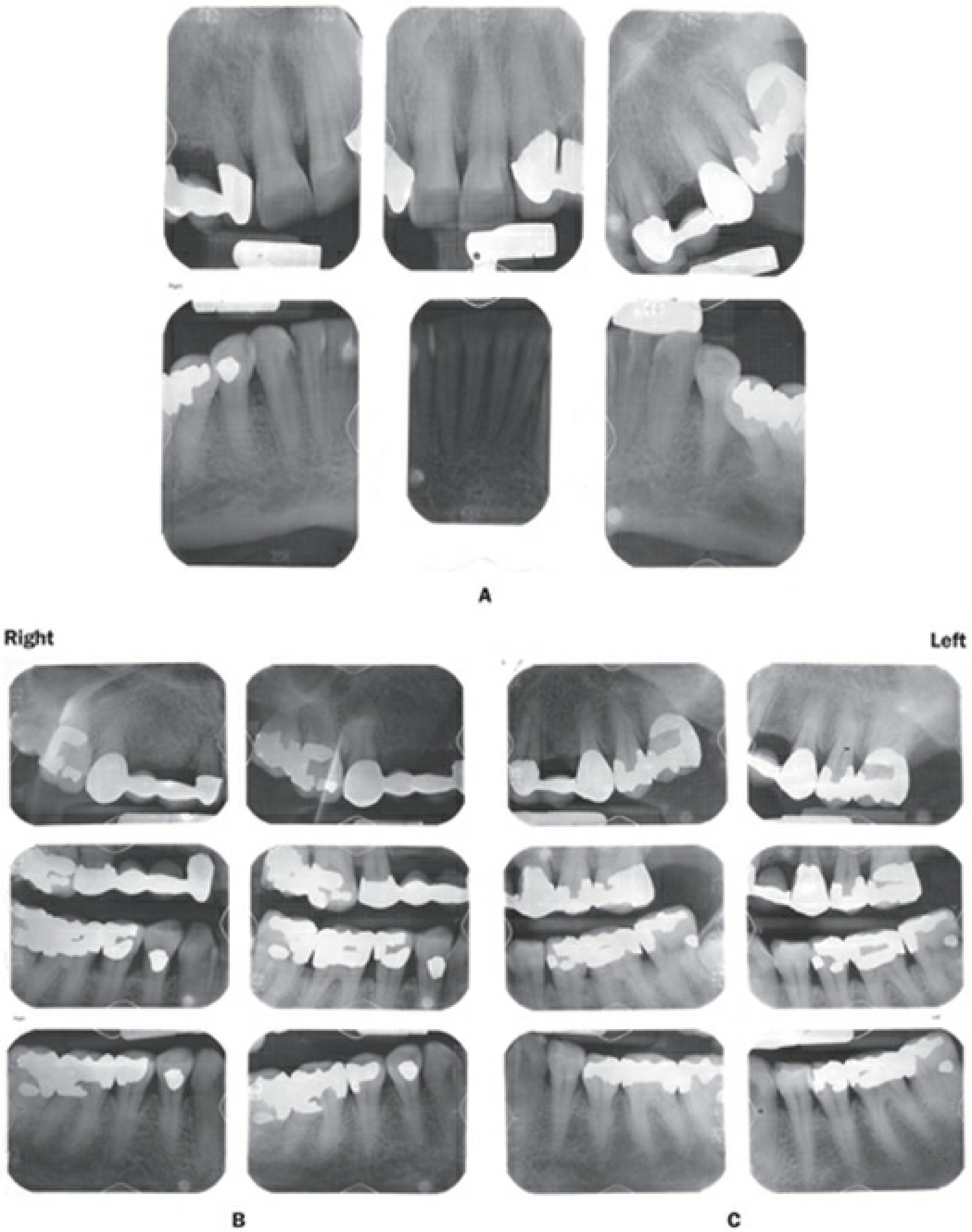
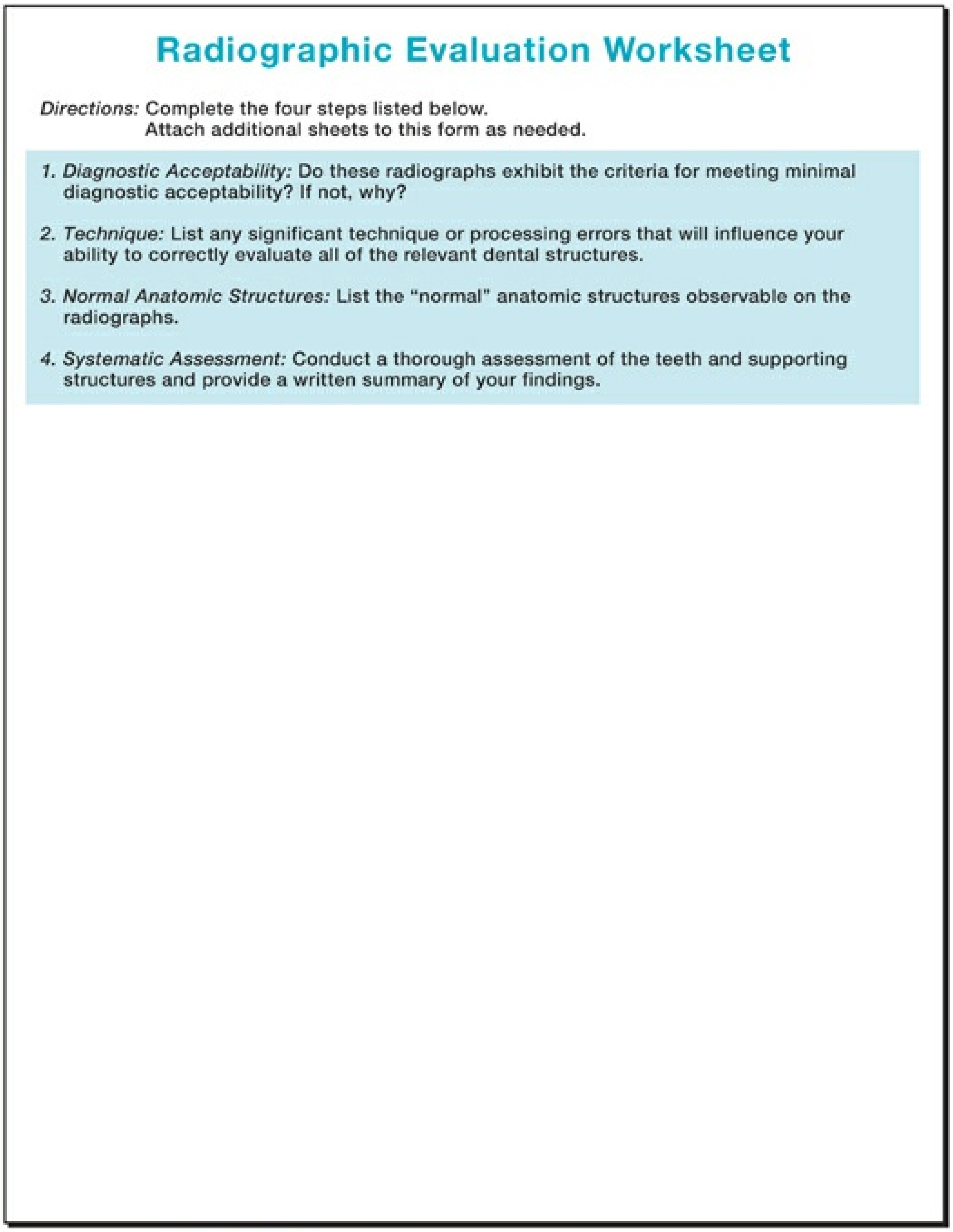

A
Right
Left
B
C

FIGURE 17-18A–C Radiographs for Ms. Eads.



Radiographic Evaluation Worksheet

Directions: Complete the four steps listed below.
Attach additional sheets to this form as needed.

1. *Diagnostic Acceptability:* Do these radiographs exhibit the criteria for meeting minimal diagnostic acceptability? If not, why?
2. *Technique:* List any significant technique or processing errors that will influence your ability to correctly evaluate all of the relevant dental structures.
3. *Normal Anatomic Structures:* List the "normal" anatomic structures observable on the radiographs.
4. *Systematic Assessment:* Conduct a thorough assessment of the teeth and supporting structures and provide a written summary of your findings.

FIGURE 17-19 Radiographic Evaluation Worksheet for Ms. Eads.

SECTION 8 • Practical Focus—Panoramic Radiographs

DIRECTIONS

- This section has six panoramic radiographs for interpretation.

- Please provide a brief description of the radiographic findings to include, but not limited to, the following, if present, for each panoramic radiograph:
  - Missing teeth
  - General description of alveolar bone height in each arch
  - Presence or absence of calculus, caries, periapical pathology (if any)
  - Dental restorative materials
  - Any radiographic “deviations” from normal
- The pages in this section may be removed from the book for easier use by tearing along the perforated lines on each page.

Panoramic Radiograph 1

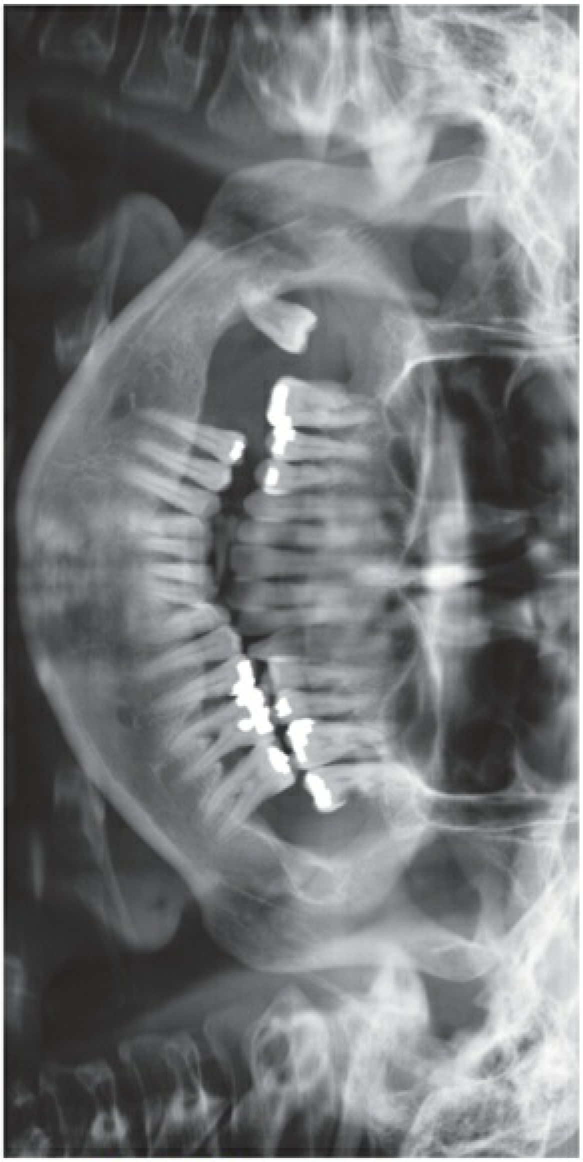


FIGURE 17-20 Panoramic radiograph 1.

Panoramic Radiograph 2

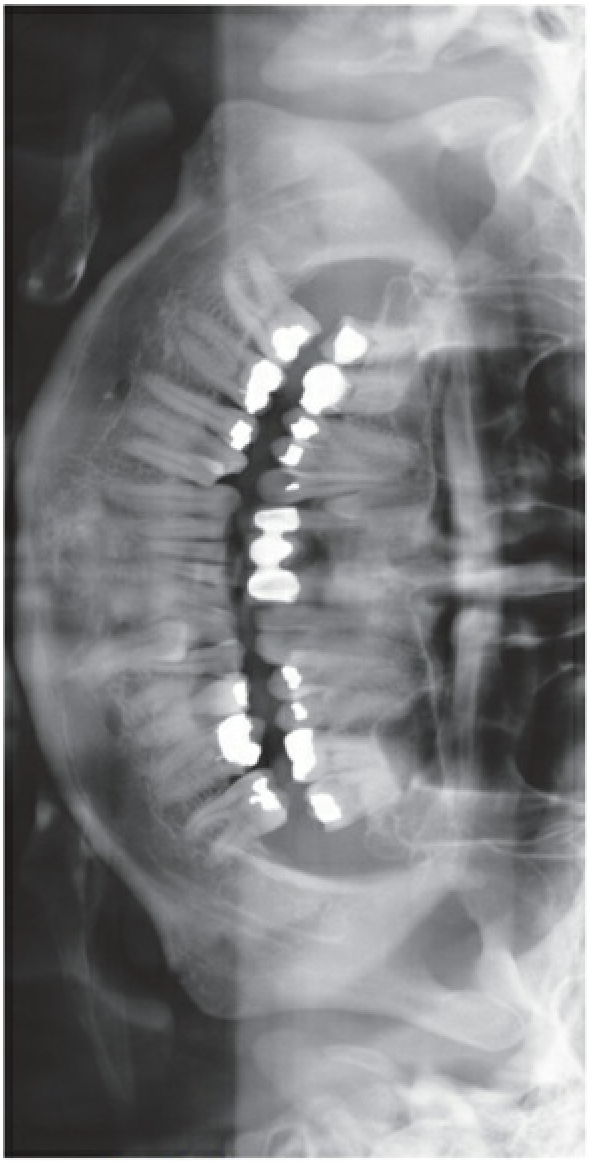


FIGURE 17-21 Panoramic radiograph 2.

Panoramic Radiograph 3

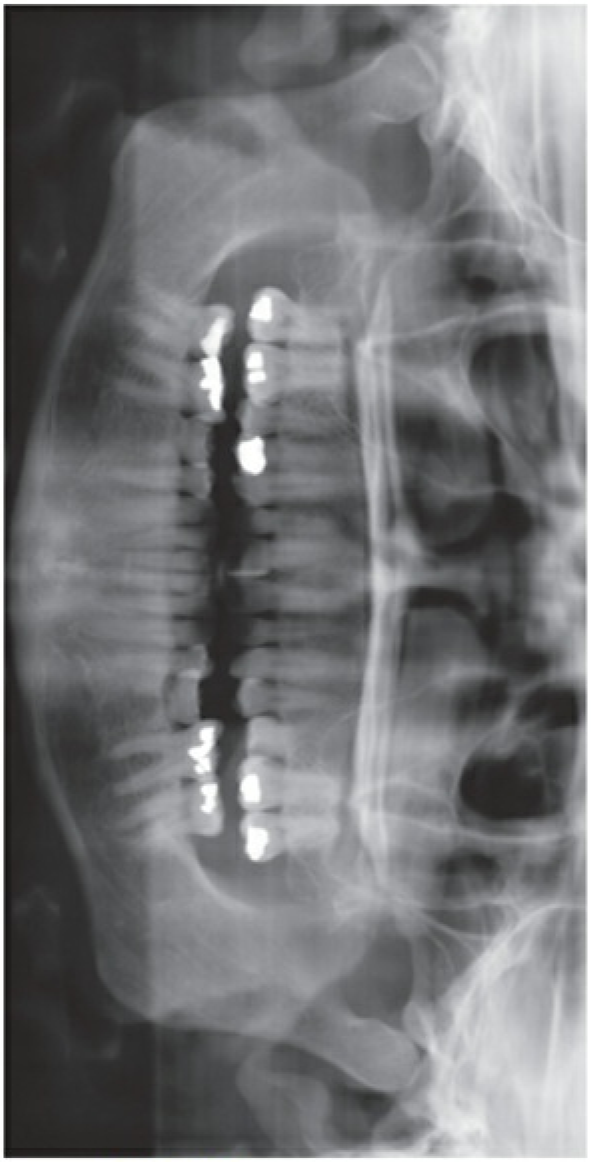


FIGURE 17-22 Panoramic radiograph 3.

Panoramic Radiograph 4

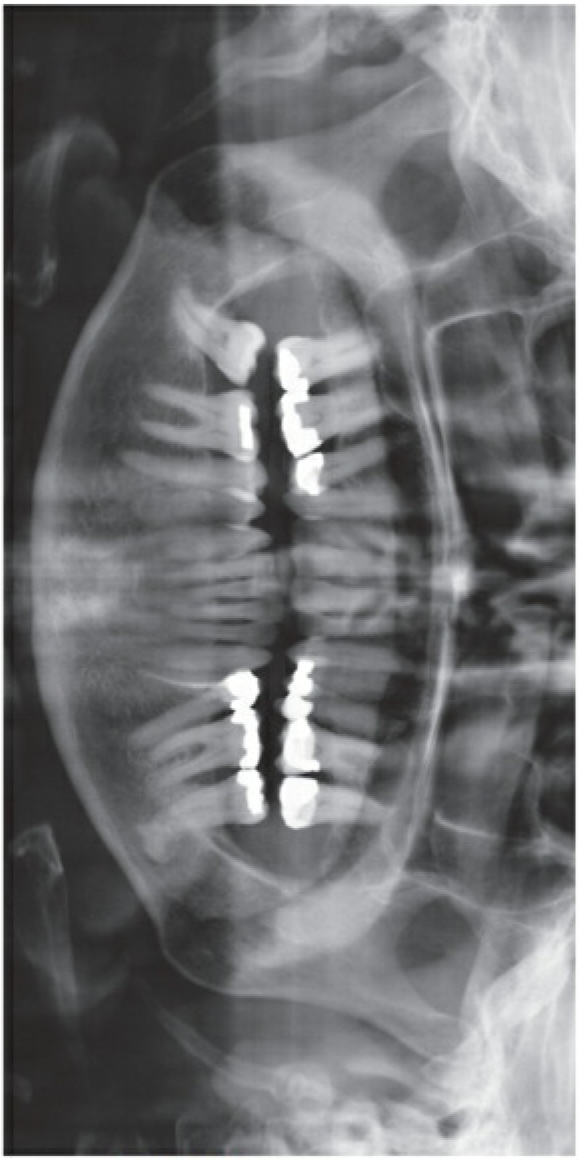


FIGURE 17-23 Panoramic radiograph 4.

Panoramic Radiograph 5

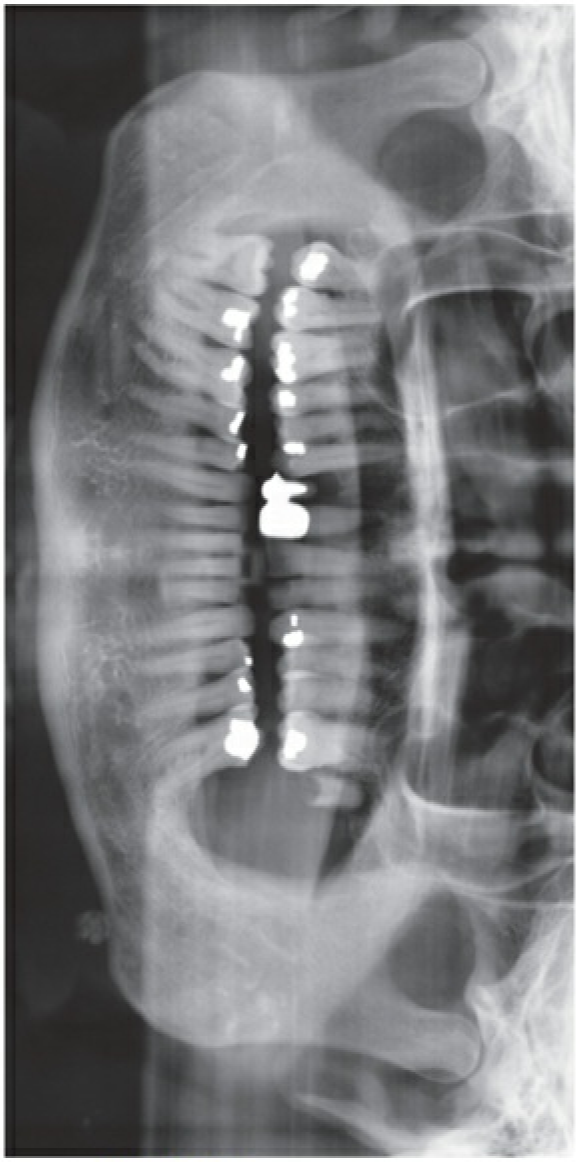


FIGURE 17-24 Panoramic radiograph 5.

Panoramic Radiograph 6

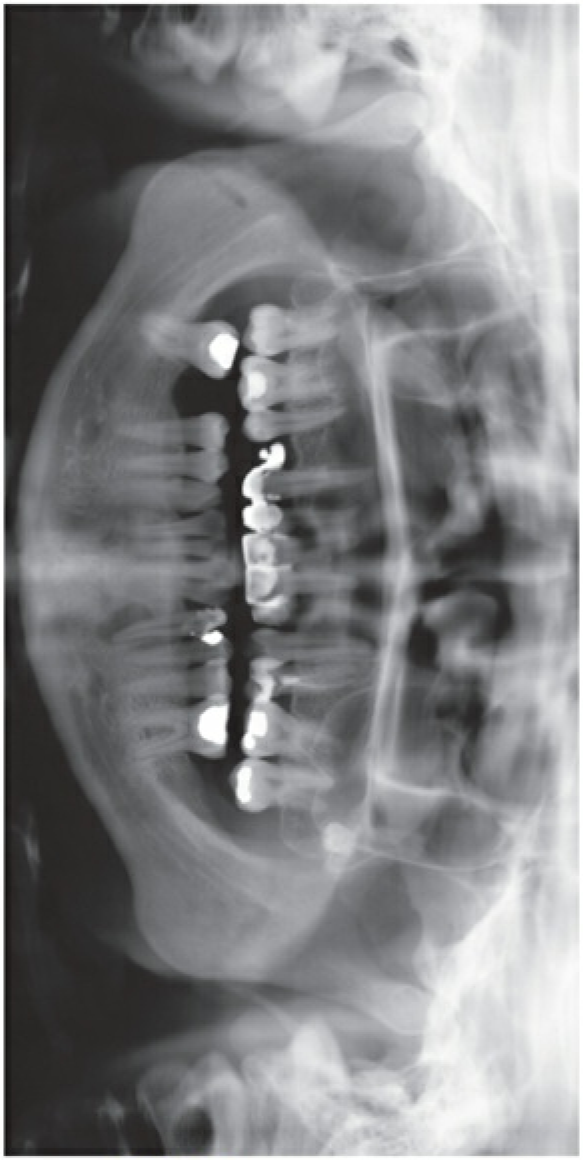


FIGURE 17-25 Panoramic radiograph 6.

SECTION 9 • Skill Check

Technique Skill Checklist: Dental Radiographs

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Defines the term **minimal diagnostic acceptability**.		
Given a set of CMRS/FMX, determines if the radiographs exhibit the criteria for meeting minimal diagnostic acceptability.		
Recognizes and lists in writing any significant technique or processing errors that would influence a clinician's ability to correctly evaluate all the relevant dental structures on the radiographs.		
Lists in writing the "normal" anatomic structures observable on the radiographs.		
Conducts a thorough assessment of the teeth and supporting structures and provides a written summary of his or her findings		
OPTIONAL: SATISFACTORY PERFORMANCE CRITERIA		
Student written assessment is in 80% agreement with the evaluator's assessment.		

Communication Skill Checklist: Dental Radiographs

Student: ______________________ Evaluator: ______________________

Date: ______________________

ROLES:

- **Student 1** = Plays the role of the patient.

- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Explains to the patient how radiographs help clinicians to better understand a patient's dental needs.		
Points out and explains findings on the radiographs to the patient.		
Encourages patient questions.		
Answers the patient's questions fully and accurately.		
Communicates with the patient at an appropriate level avoiding dental/medical terminology or jargon.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment using correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		

Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

PART 3

Comprehensive Patient Cases

MODULE

18

COMPREHENSIVE PATIENT CASES F TO K

For additional ancillary materials related to this chapter, please visit thePoint.

MODULE OVERVIEW

This module presents six fictitious patient cases, patients F to K. The fictitious patient cases in this module provide opportunities to practice interpreting and communicating assessment information.

MODULE OUTLINE

SECTION 1	**Fictitious Patient F, Frasier Fairhall**
SECTION 2	**Fictitious Patient G, Gumercindo de la Garza**
SECTION 3	**Fictitious Patient H, Harry Haversmith**
SECTION 4	**Fictitious Patient I, Ida Iannuzzi**

SECTION 5 Fictitious Patient J, John Jolioceur
SECTION 6 Fictitious Patient K, Kwan Kang
SECTION 7 The Human Element
Ethical Dilemma
SECTION 8 Skill Check

OBJECTIVES

- Demonstrate knowledge of information gathering and evaluation by applying concepts from the modules in this book to fictitious comprehensive patient cases F to K.
- During a role-play, demonstrate the use of communication strategies to provide information to each patient about his or her assessment findings.
- During a role-play, accurately communicate the assessment findings to a clinical instructor.
- Discuss the implications for dental treatment using correct medical and dental terminology.

Sources of Clinical Photographs

The authors gratefully acknowledge the sources of the clinical photographs in this module:

CASE F

- Figure 18-4. Image provided by *Stedman's Medical Dictionary*.
- Figure 18-5. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-6. Dr. Richard Foster, Guilford Technical Community

College, Jamestown, NC.
- Figure 18-7. Dr. Don Rolfs, Wenatchee, WA.
- Figure 18-8. Dr. Don Rolfs, Wenatchee, WA.

CASE G

- Figure 18-12. From Langlais RP, Miller CS, Nield-Gehrig JS. *Color Atlas of Common Oral Diseases*. 4th ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2009.
- Figure 18-13. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-14. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-15. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.

CASE H

- Figure 18-19. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-20. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-21. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-22. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.

CASE I

- Figure 18-26. Centers for Disease Control and Prevention, Public Health Image Library (PHIL).
- Figure 18-27. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-28. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-29. Dr. Richard Foster, Guilford Technical Community

College, Jamestown, NC.

CASE J

- Figure 18-33. Dr. Charles Goldberg, University of California San Diego School of Medicine.
- Figure 18-34. Image provided by *Stedman's Medical Dictionary*.
- Figure 18-35. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-36. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-37. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-38. Catherine Ranson, George Brown College, Toronto.
- Figure 18-39. Catherine Ranson, George Brown College, Toronto.

CASE K

- Figure 18-42. From Goodheart HP. *Goodheart's Photoguide of Common Skin Disorders*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 2003.
- Figure 18-43. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-44. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.
- Figure 18-45. Dr. Don Rolfs, Wenatchee, WA.
- Figure 18-46. Dr. Richard Foster, Guilford Technical Community College, Jamestown, NC.

DIRECTIONS FOR COMPLETING THE FICTITIOUS PATIENT CASES

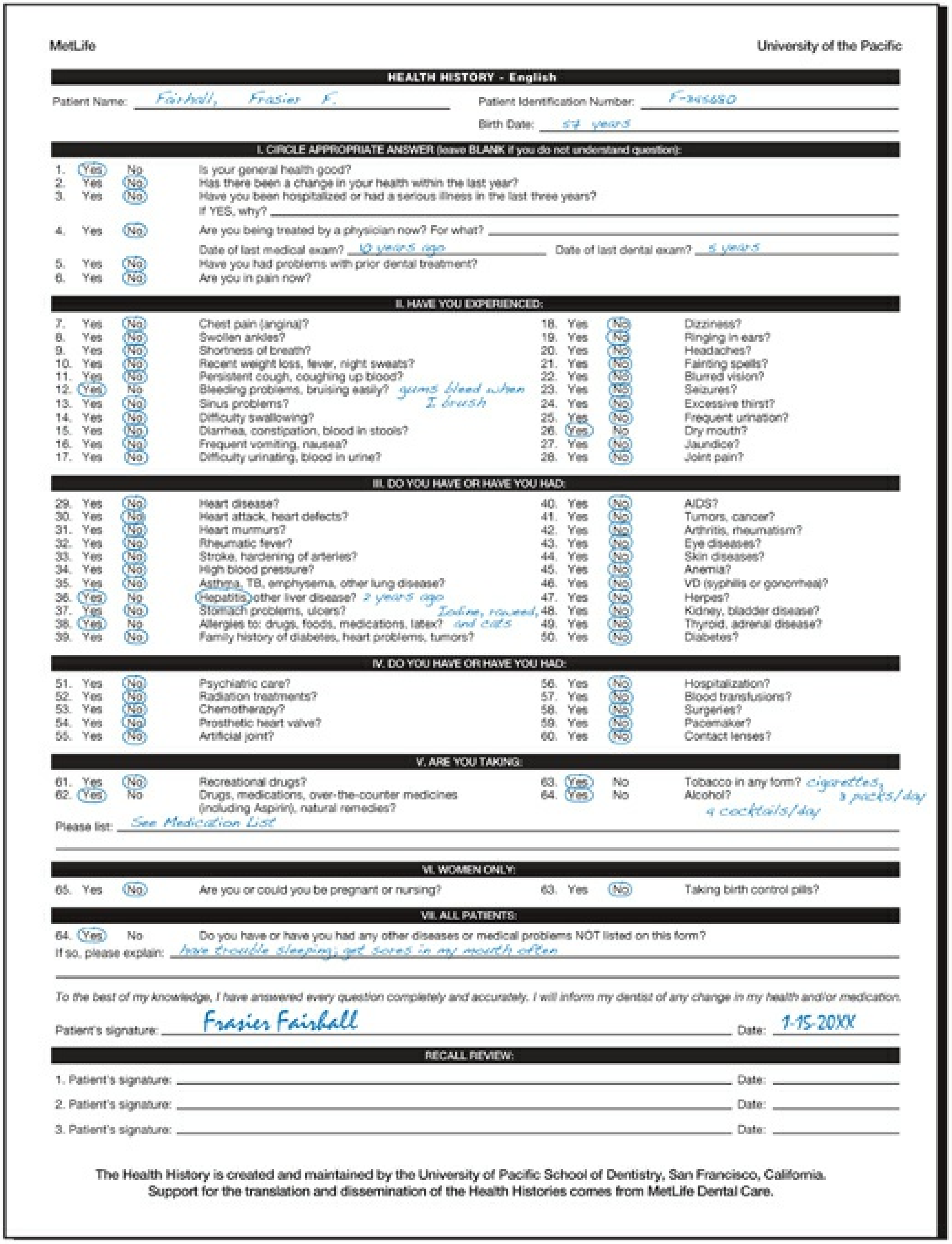
1. **Compile and analyze findings.** Follow the Peak Procedures outlined in Modules 4 to 16 to assess the patient findings.
2. **Create a summary statement.** Use notebook paper to create a

summary worksheet for each patient. List the significant findings for each assessment category and explain how each finding will impact the dental hygiene care plan.

3. **Complete the communication role-play in Section 8 of this module**. Clearly and accurately communicate assessment findings to each patient. Present assessment findings to your clinical instructor and discuss the implications of these findings for patient care.

NOTE: The clinical photographs and radiographs in this module are for illustrative purposes but are not necessarily from the same individual. The components of a fictitious patient case were selected to enhance the learning experiences associated with the case.

SECTION 1 • Fictitious Patient F, Frasier Fairhall



MetLife

University of the Pacific

HEALTH HISTORY - English

Patient Name: Fairhall, Frasier F.

Patient Identification Number: F-345680

Birth Date: 57 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1. [✓ Yes] No Is your general health good?
2. Yes [✓ No] Has there been a change in your health within the last year?
3. Yes [✓ No] Have you been hospitalized or had a serious illness in the last three years?
If YES, why?
4. Yes [✓ No] Are you being treated by a physician now? For what?
Date of last medical exam? 10 years ago Date of last dental exam? 5 years
5. Yes [✓ No] Have you had problems with prior dental treatment?
6. Yes [✓ No] Are you in pain now?

II. HAVE YOU EXPERIENCED:

7.	Yes [✓ No]	Chest pain (angina)?	18.	Yes [✓ No]	Dizziness?
8.	Yes [✓ No]	Swollen ankles?	19.	Yes [✓ No]	Ringing in ears?
9.	Yes [✓ No]	Shortness of breath?	20.	Yes [✓ No]	Headaches?
10.	Yes [✓ No]	Recent weight loss, fever, night sweats?	21.	Yes [✓ No]	Fainting spells?
11.	Yes [✓ No]	Persistent cough, coughing up blood?	22.	Yes [✓ No]	Blurred vision?
12.	[✓ Yes] No	Bleeding problems, bruising easily? gums bleed when I brush	23.	Yes [✓ No]	Seizures?
13.	Yes [✓ No]	Sinus problems?	24.	Yes [✓ No]	Excessive thirst?
14.	Yes [✓ No]	Difficulty swallowing?	25.	Yes [✓ No]	Frequent urination?
15.	Yes [✓ No]	Diarrhea, constipation, blood in stools?	26.	[✓ Yes] No	Dry mouth?
16.	Yes [✓ No]	Frequent vomiting, nausea?	27.	Yes [✓ No]	Jaundice?
17.	Yes [✓ No]	Difficulty urinating, blood in urine?	28.	Yes [✓ No]	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes [✓ No]	Heart disease?	40.	Yes [✓ No]	AIDS?
30.	Yes [✓ No]	Heart attack, heart defects?	41.	Yes [✓ No]	Tumors, cancer?
31.	Yes [✓ No]	Heart murmurs?	42.	Yes [✓ No]	Arthritis, rheumatism?
32.	Yes [✓ No]	Rheumatic fever?	43.	Yes [✓ No]	Eye diseases?
33.	Yes [✓ No]	Stroke, hardening of arteries?	44.	Yes [✓ No]	Skin diseases?
34.	Yes [✓ No]	High blood pressure?	45.	Yes [✓ No]	Anemia?
35.	Yes [✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes [✓ No]	VD (syphilis or gonorrhea)?
36.	[✓ Yes] No	[✓ Hepatitis] other liver disease? 2 years ago	47.	Yes [✓ No]	Herpes?
37.	Yes [✓ No]	Stomach problems, ulcers?	48.	Yes [✓ No]	Kidney, bladder disease?
38.	[✓ Yes] No	Allergies to: drugs, foods, medications, latex? Iodine, ragweed, and cats	49.	Yes [✓ No]	Thyroid, adrenal disease?
39.	Yes [✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes [✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes [✓ No]	Psychiatric care?	56.	Yes [✓ No]	Hospitalization?
52.	Yes [✓ No]	Radiation treatments?	57.	Yes [✓ No]	Blood transfusions?
53.	Yes [✓ No]	Chemotherapy?	58.	Yes [✓ No]	Surgeries?
54.	Yes [✓ No]	Prosthetic heart valve?	59.	Yes [✓ No]	Pacemaker?
55.	Yes [✓ No]	Artificial joint?	60.	Yes [✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes [✓ No]	Recreational drugs?	63.	[✓ Yes] No	Tobacco in any form? cigarettes, 3 packs/day
62.	[✓ Yes] No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	[✓ Yes] No	Alcohol? 4 cocktails/day

Please list: See Medication List

VI. WOMEN ONLY:

65.	Yes [✓ No]	Are you or could you be pregnant or nursing?	63.	Yes [✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64. [✓ Yes] No Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain: have trouble sleeping; get sores in my mouth often

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

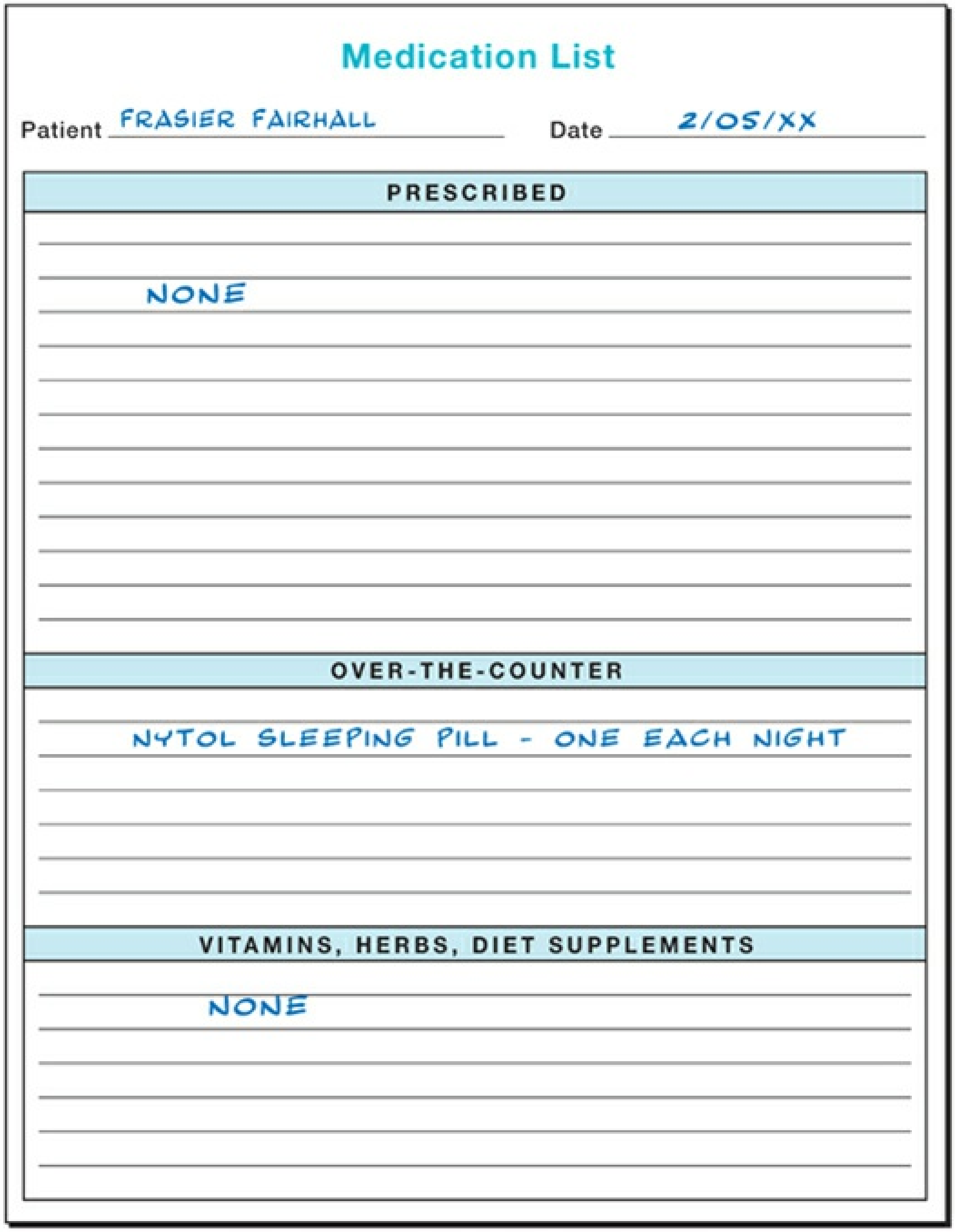
Patient's signature: Frasier Fairhall Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: Date:
2. Patient's signature: Date:
3. Patient's signature: Date:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 18-1 Medical history for fictitious patient F.



Medication List

Patient FRASIER FAIRHALL Date 2/05/XX

PRESCRIBED

NONE

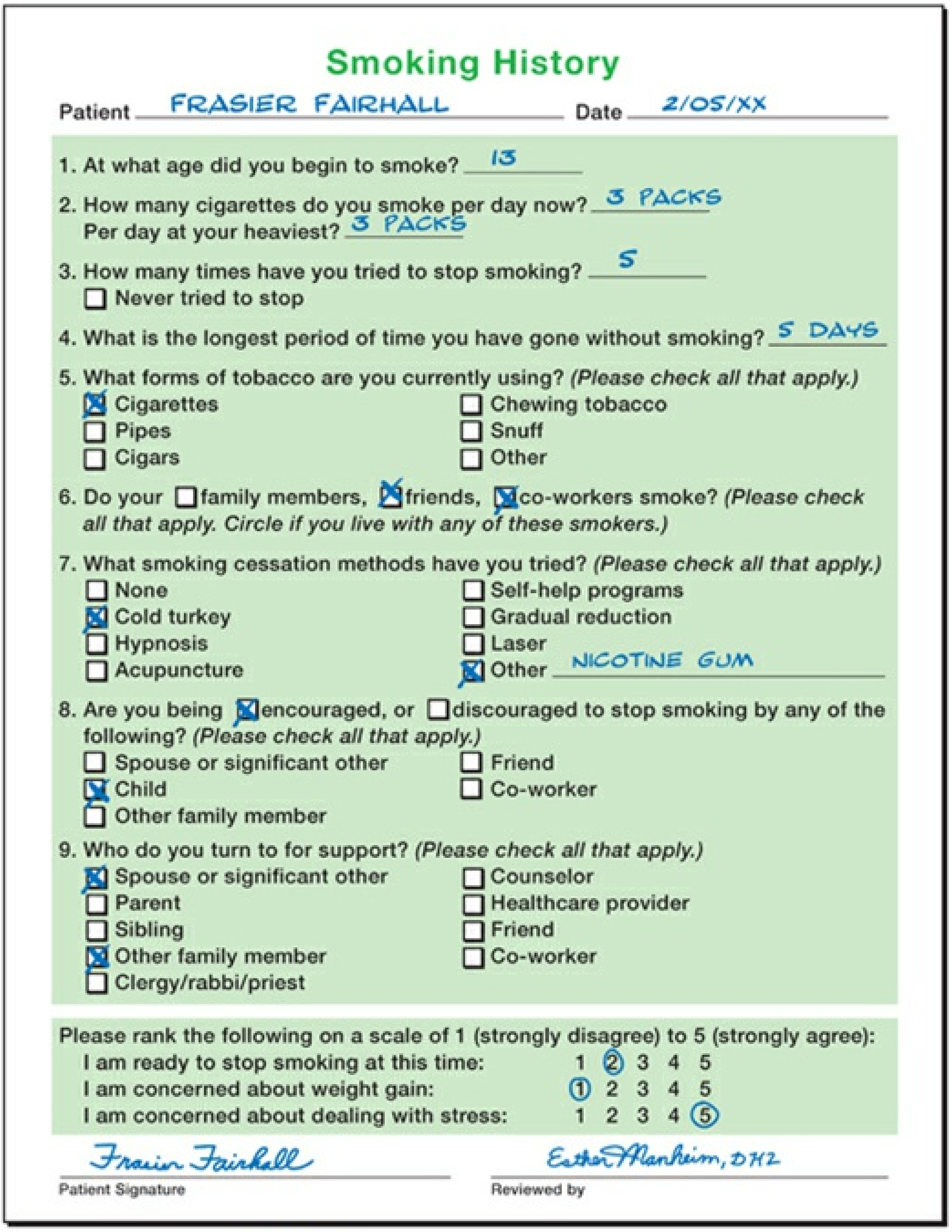
OVER-THE-COUNTER

NYTOL SLEEPING PILL - ONE EACH NIGHT

VITAMINS, HERBS, DIET SUPPLEMENTS

NONE

FIGURE 18-2 Medication list for fictitious patient F.



Smoking History

Patient FRASIER FAIRHALL Date 2/05/XX

1. At what age did you begin to smoke? 13
2. How many cigarettes do you smoke per day now? 3 PACKS
   Per day at your heaviest? 3 PACKS
3. How many times have you tried to stop smoking? 5
   ☐ Never tried to stop
4. What is the longest period of time you have gone without smoking? 5 DAYS
5. What forms of tobacco are you currently using? *(Please check all that apply.)*
   ☒ Cigarettes
   ☐ Pipes
   ☐ Cigars
   ☐ Chewing tobacco
   ☐ Snuff
   ☐ Other
6. Do your ☐ family members, ☒ friends, ☒ co-workers smoke? *(Please check all that apply. Circle if you live with any of these smokers.)*
7. What smoking cessation methods have you tried? *(Please check all that apply.)*
   ☐ None
   ☒ Cold turkey
   ☐ Hypnosis
   ☐ Acupuncture
   ☐ Self-help programs
   ☐ Gradual reduction
   ☐ Laser
   ☒ Other NICOTINE GUM
8. Are you being ☒ encouraged, or ☐ discouraged to stop smoking by any of the following? *(Please check all that apply.)*
   ☐ Spouse or significant other
   ☒ Child
   ☐ Other family member
   ☐ Friend
   ☐ Co-worker
9. Who do you turn to for support? *(Please check all that apply.)*
   ☒ Spouse or significant other
   ☐ Parent
   ☐ Sibling
   ☒ Other family member
   ☐ Clergy/rabbi/priest
   ☐ Counselor
   ☐ Healthcare provider
   ☐ Friend
   ☐ Co-worker

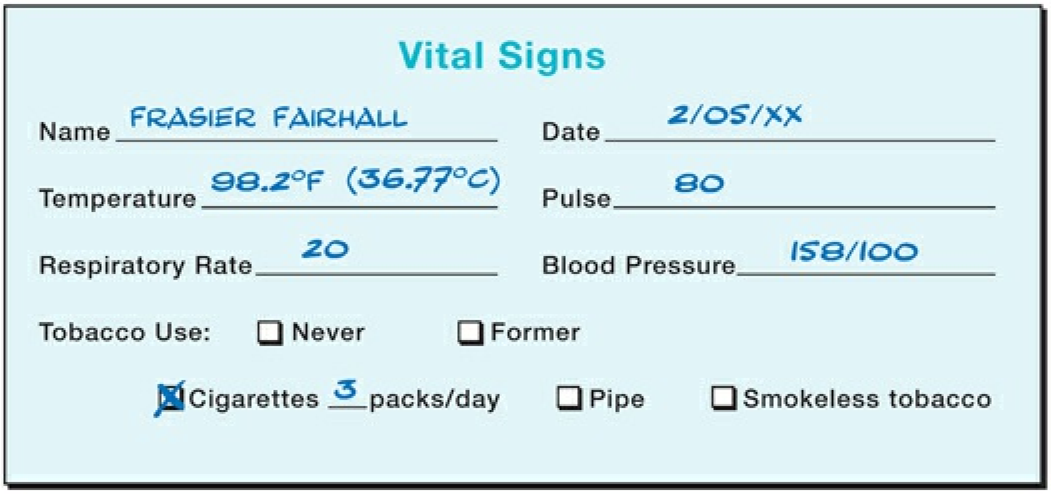
Please rank the following on a scale of 1 (strongly disagree) to 5 (strongly agree):

I am ready to stop smoking at this time: 1 [✓ 2] 3 4 5
I am concerned about weight gain: [✓ 1] 2 3 4 5
I am concerned about dealing with stress: 1 2 3 4 [✓ 5]

Frasier Fairhall
Patient Signature

Esther Manheim, DH2
Reviewed by

FIGURE 18-3 Smoking history for fictitious patient F.



Vital Signs

Name FRASIER FAIRHALL
Date 2/05/XX
Temperature 98.2°F (36.77°C)
Pulse 80
Respiratory Rate 20
Blood Pressure 158/100
Tobacco Use: ☐ Never ☐ Former
☒ Cigarettes 3 packs/day ☐ Pipe ☐ Smokeless tobacco

FIGURE 18-4 Vital signs findings for fictitious patient F.

Finding:
Location: left side of face
Size: two raised lesions; each lesion is 1 cm in diameter

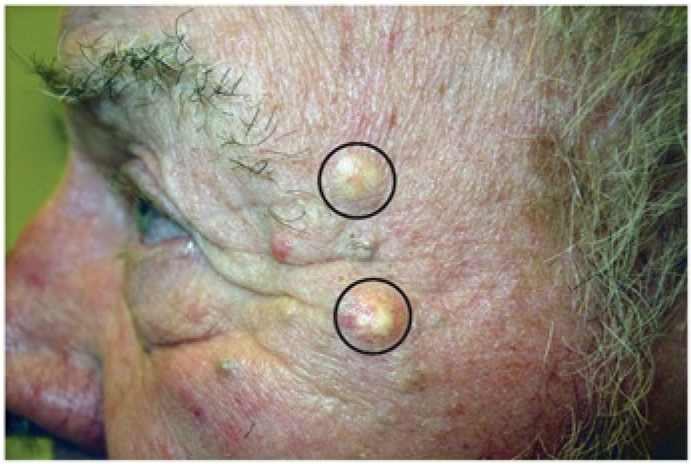


FIGURE 18-5 Finding for fictitious patient F.

Finding:
Location: floor of the mouth
Size: 1 cm in anterior-posterior length; 0.5 cm in superior-inferior width

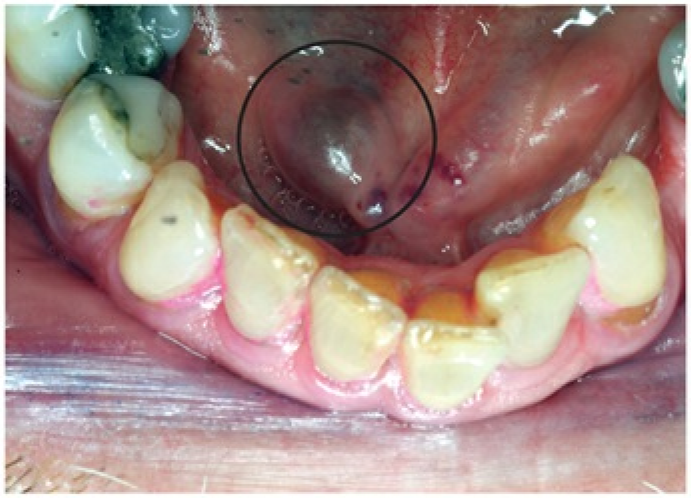


FIGURE 18-6 Finding for fictitious patient F.

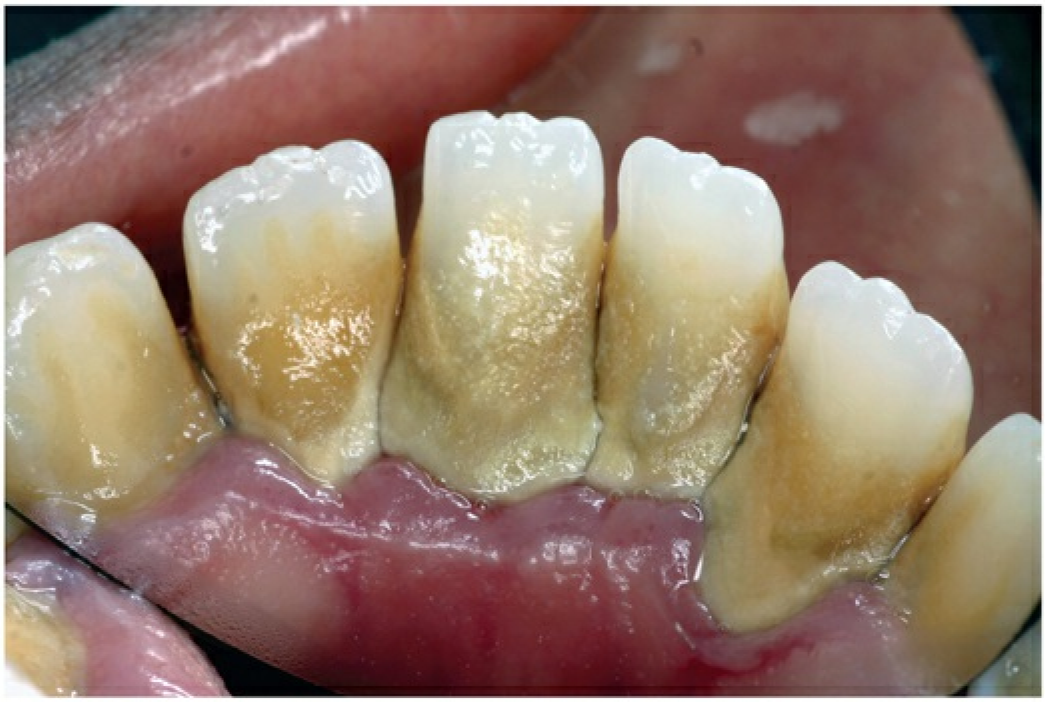


FIGURE 18-7 Fictitious patient F: mandibular anterior sextant, lingual aspect.

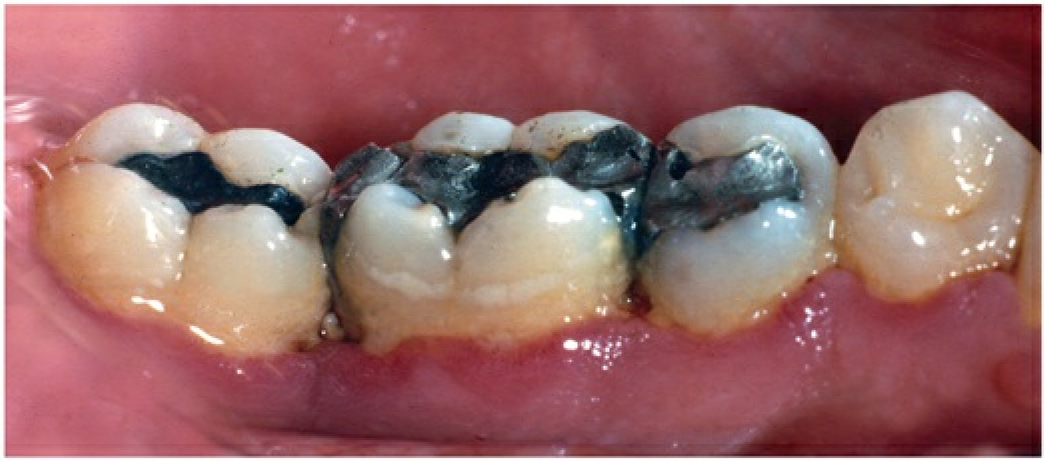


FIGURE 18-8 Fictitious patient F: mandibular left posterior sextant, lingual aspect.

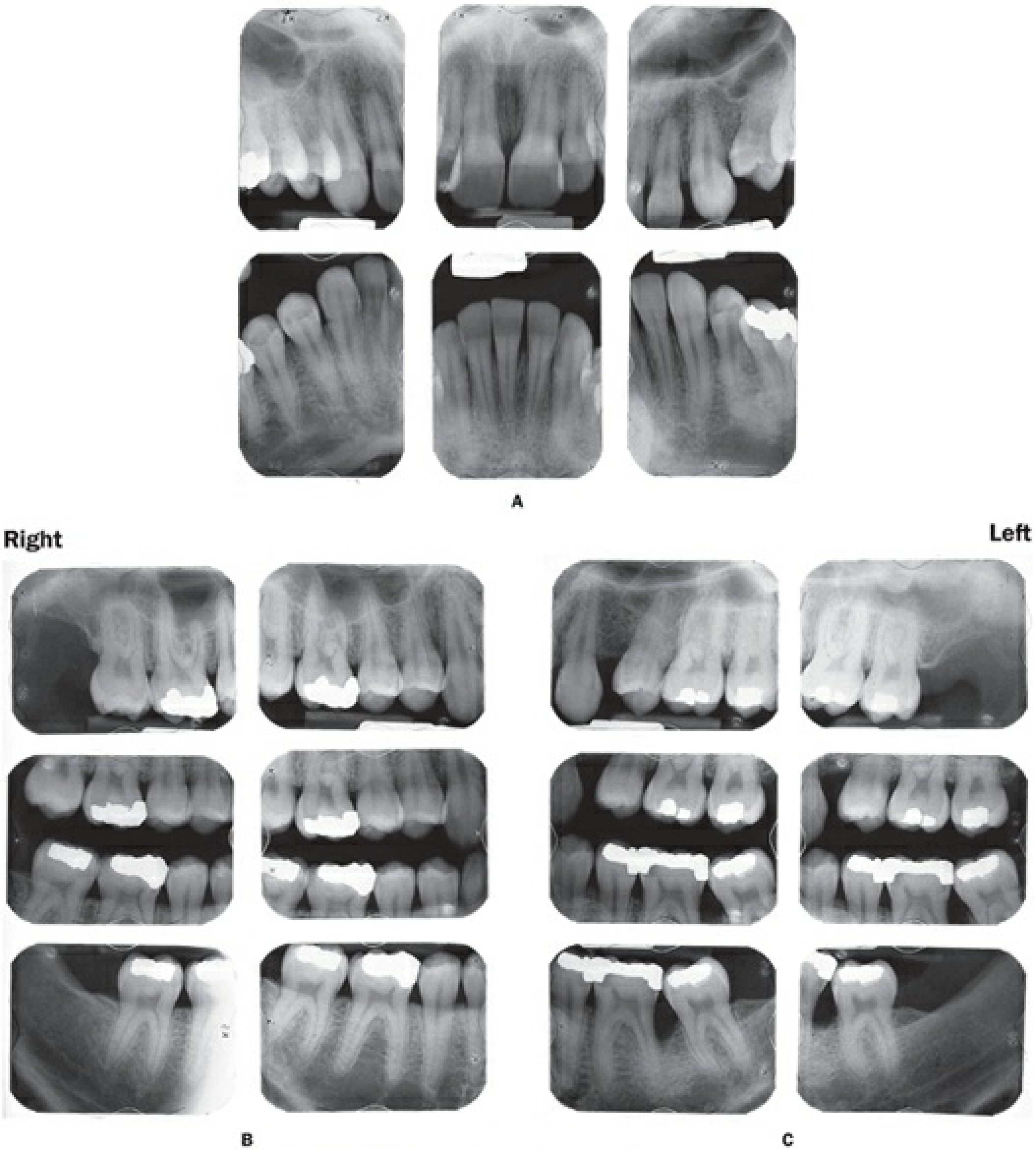
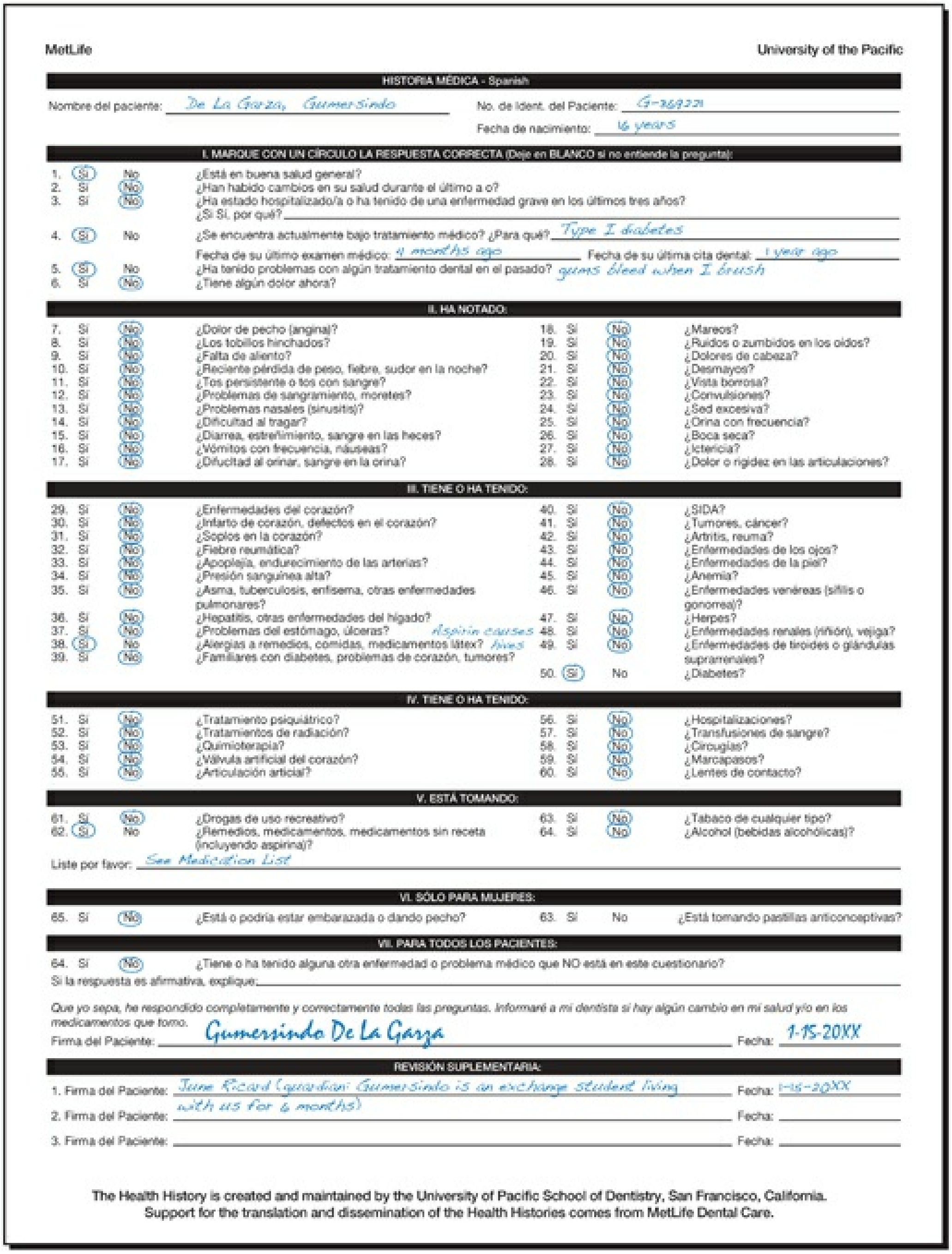

A
Right
Left
B
C

FIGURE 18-9A–C Radiographs for fictitious patient F.

SECTION 2 • Fictitious Patient G, Gumercindo de la Garza



MetLife University of the Pacific

HISTORIA MÉDICA - Spanish

Nombre del paciente: De La Garza, Gumersindo
No. de Ident. del Paciente: G-369221
Fecha de nacimiento: 16 years

I. MARQUE CON UN CÍRCULO LA RESPUESTA CORRECTA (Deje en BLANCO si no entiende la pregunta):

1. [✓ Sí] No ¿Está en buena salud general?
2. Sí [✓ No] ¿Han habido cambios en su salud durante el último a o?
3. Sí [✓ No] ¿Ha estado hospitalizado/a o ha tenido de una enfermedad grave en los últimos tres años? ¿Si Sí, por qué?
4. [✓ Sí] No ¿Se encuentra actualmente bajo tratamiento médico? ¿Para qué? Type I diabetes
   Fecha de su último examen médico: 4 months ago Fecha de su última cita dental: 1 year ago
5. [✓ Sí] No ¿Ha tenido problemas con algún tratamiento dental en el pasado? gums bleed when I brush
6. Sí [✓ No] ¿Tiene algún dolor ahora?

II. HA NOTADO:

7. Sí [✓ No] ¿Dolor de pecho (angina)?
8. Sí [✓ No] ¿Los tobillos hinchados?
9. Sí [✓ No] ¿Falta de aliento?
10. Sí [✓ No] ¿Reciente pérdida de peso, fiebre, sudor en la noche?
11. Sí [✓ No] ¿Tos persistente o tos con sangre?
12. Sí [✓ No] ¿Problemas de sangramiento, moretes?
13. Sí [✓ No] ¿Problemas nasales (sinusitis)?
14. Sí [✓ No] ¿Dificultad al tragar?
15. Sí [✓ No] ¿Diarrea, estreñimiento, sangre en las heces?
16. Sí [✓ No] ¿Vómitos con frecuencia, náuseas?
17. Sí [✓ No] ¿Difucltad al orinar, sangre en la orina?
18. Sí [✓ No] ¿Mareos?
19. Sí [✓ No] ¿Ruidos o zumbidos en los oidos?
20. Sí [✓ No] ¿Dolores de cabeza?
21. Sí [✓ No] ¿Desmayos?
22. Sí [✓ No] ¿Vista borrosa?
23. Sí [✓ No] ¿Convulsiones?
24. Sí [✓ No] ¿Sed excesiva?
25. Sí [✓ No] ¿Orina con frecuencia?
26. Sí [✓ No] ¿Boca seca?
27. Sí [✓ No] ¿Ictericia?
28. Sí [✓ No] ¿Dolor o rigidez en las articulaciones?

III. TIENE O HA TENIDO:

29. Sí [✓ No] ¿Enfermedades del corazón?
30. Sí [✓ No] ¿Infarto de corazón, defectos en el corazón?
31. Sí [✓ No] ¿Soplos en la corazón?
32. Sí [✓ No] ¿Fiebre reumática?
33. Sí [✓ No] ¿Apoplejía, endurecimiento de las arterias?
34. Sí [✓ No] ¿Presión sanguínea alta?
35. Sí [✓ No] ¿Asma, tuberculosis, enfisema, otras enfermedades pulmonares?
36. Sí [✓ No] ¿Hepatitis, otras enfermedades del hígado?
37. Sí [✓ No] ¿Problemas del estómago, úlceras? Aspirin causes
38. [✓ Sí] No ¿Alergias a remedios, comidas, medicamentos látex? hives
39. Sí [✓ No] ¿Familiares con diabetes, problemas de corazón, tumores?
40. Sí [✓ No] ¿SIDA?
41. Sí [✓ No] ¿Tumores, cáncer?
42. Sí [✓ No] ¿Artritis, reuma?
43. Sí [✓ No] ¿Enfermedades de los ojos?
44. Sí [✓ No] ¿Enfermedades de la piel?
45. Sí [✓ No] ¿Anemia?
46. Sí [✓ No] ¿Enfermedades venéreas (sífilis o gonorrea)?
47. Sí [✓ No] ¿Herpes?
48. Sí [✓ No] ¿Enfermedades renales (riñón), vejiga?
49. Sí [✓ No] ¿Enfermedades de tiroides o glándulas suprarrenales?
50. [✓ Sí] No ¿Diabetes?

IV. TIENE O HA TENIDO:

51. Sí [✓ No] ¿Tratamiento psiquiátrico?
52. Sí [✓ No] ¿Tratamientos de radiación?
53. Sí [✓ No] ¿Quimioterapia?
54. Sí [✓ No] ¿Válvula artificial del corazón?
55. Sí [✓ No] ¿Articulación articial?
56. Sí [✓ No] ¿Hospitalizaciones?
57. Sí [✓ No] ¿Transfusiones de sangre?
58. Sí [✓ No] ¿Cirougías?
59. Sí [✓ No] ¿Marcapasos?
60. Sí [✓ No] ¿Lentes de contacto?

V. ESTÁ TOMANDO:

61. Sí [✓ No] ¿Drogas de uso recreativo?
62. [✓ Sí] No ¿Remedios, medicamentos, medicamentos sin receta (incluyendo aspirina)?
63. Sí [✓ No] ¿Tabaco de cualquier tipo?
64. Sí [✓ No] ¿Alcohol (bebidas alcohólicas)?

Liste por favor: See Medication List

VI. SÓLO PARA MUJERES:

65. Sí [✓ No] ¿Está o podría estar embarazada o dando pecho?

63. Sí No ¿Está tomando pastillas anticonceptivas?

VII. PARA TODOS LOS PACIENTES:

64. Sí [✓ No] ¿Tiene o ha tenido alguna otra enfermedad o problema médico que NO está en este cuestionario?

Si la respuesta es afirmativa, explique:

Que yo sepa, he respondido completamente y correctamente todas las preguntas. Informaré a mi dentista si hay algún cambio en mi salud y/o en los medicamentos que tomo.

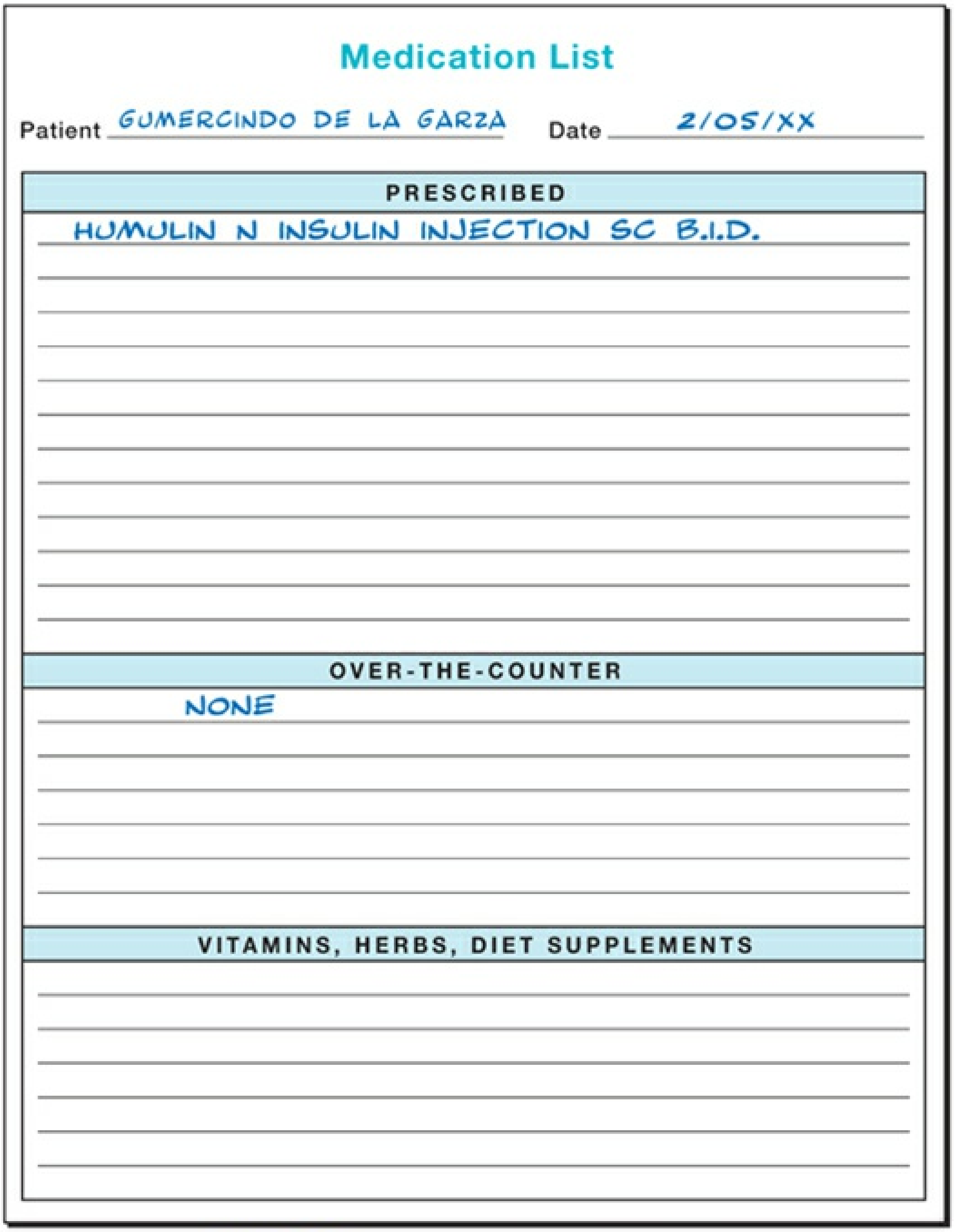
Firma del Paciente: Gumersindo De La Garza Fecha: 1-15-20XX

REVISIÓN SUPLEMENTARIA:

1. Firma del Paciente: June Ricard (guardian: Gumersindo is an exchange student living with us for 6 months) Fecha: 1-15-20XX
2. Firma del Paciente: Fecha:
3. Firma del Paciente: Fecha:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 18-10 Medical history for fictitious patient G.



Medication List

Patient GUMERCINDO DE LA GARZA Date 2/05/XX

PRESCRIBED

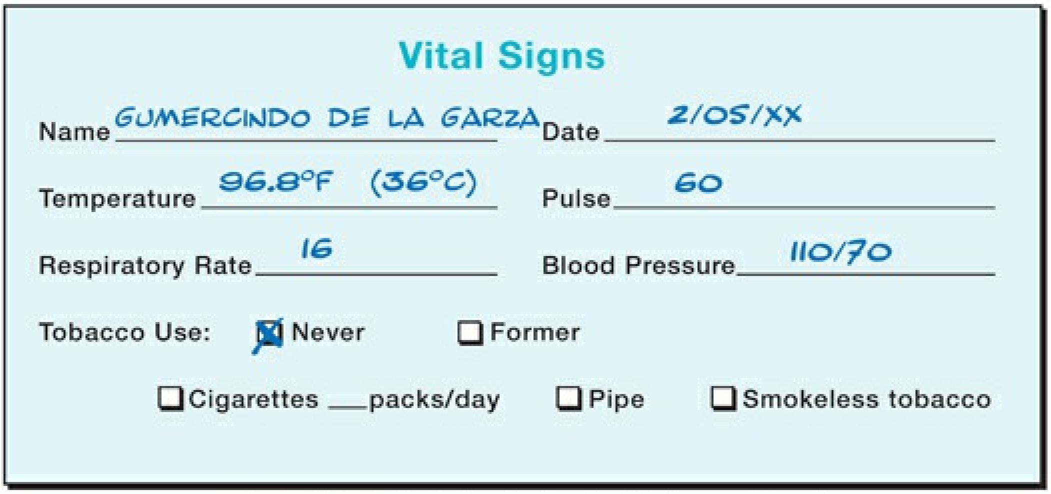
HUMULIN N INSULIN INJECTION SC B.I.D.

OVER-THE-COUNTER

NONE

VITAMINS, HERBS, DIET SUPPLEMENTS

FIGURE 18-11 Medication list for fictitious patient G.



Vital Signs

Name GUMERCINDO DE LA GARZA Date 2/05/XX

Temperature 96.8°F (36°C) Pulse 60

Respiratory Rate 16 Blood Pressure 110/70

Tobacco Use: ☒ Never ☐ Former

☐ Cigarettes ___ packs/day ☐ Pipe ☐ Smokeless tobacco

FIGURE 18-12 Vital signs findings for fictitious patient G.

Finding:
Location: lower lip
Size: 0.5 cm in diameter

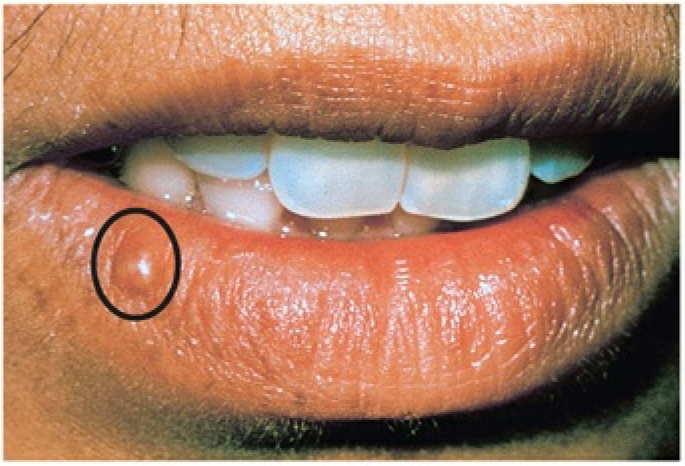


FIGURE 18-13 Finding for fictitious patient G.

Finding:
Location: ventral surface of tongue
Size: 2.5 cm in anterior-posterior length; 1.5 cm in width

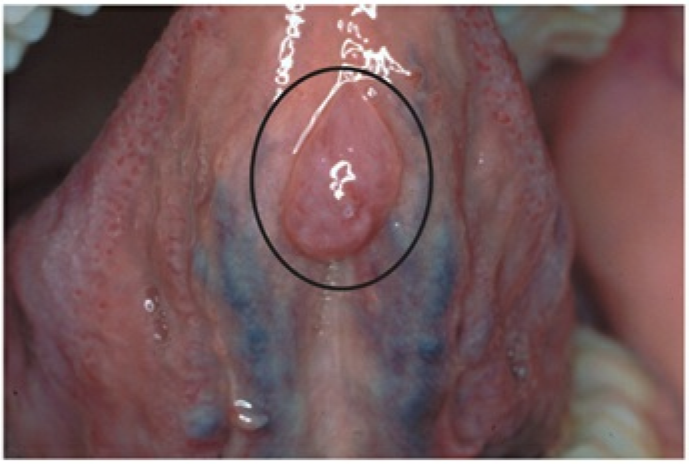


FIGURE 18-14 Finding for fictitious patient G.

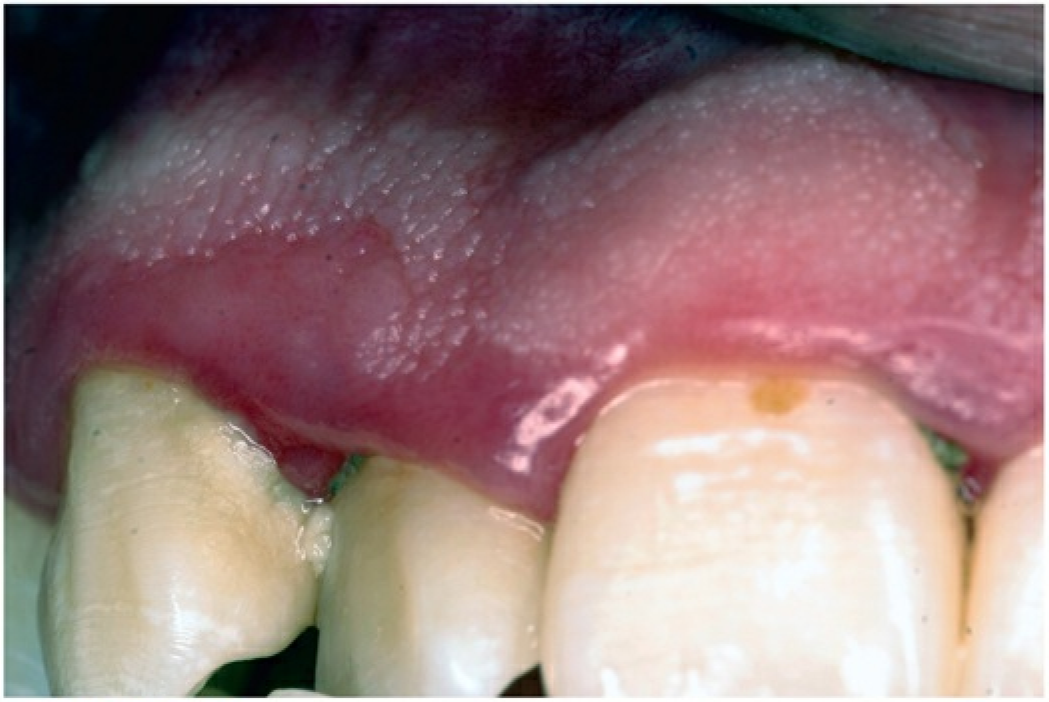


FIGURE 18-15 Fictitious patient G: maxillary anteriors, facial aspect.

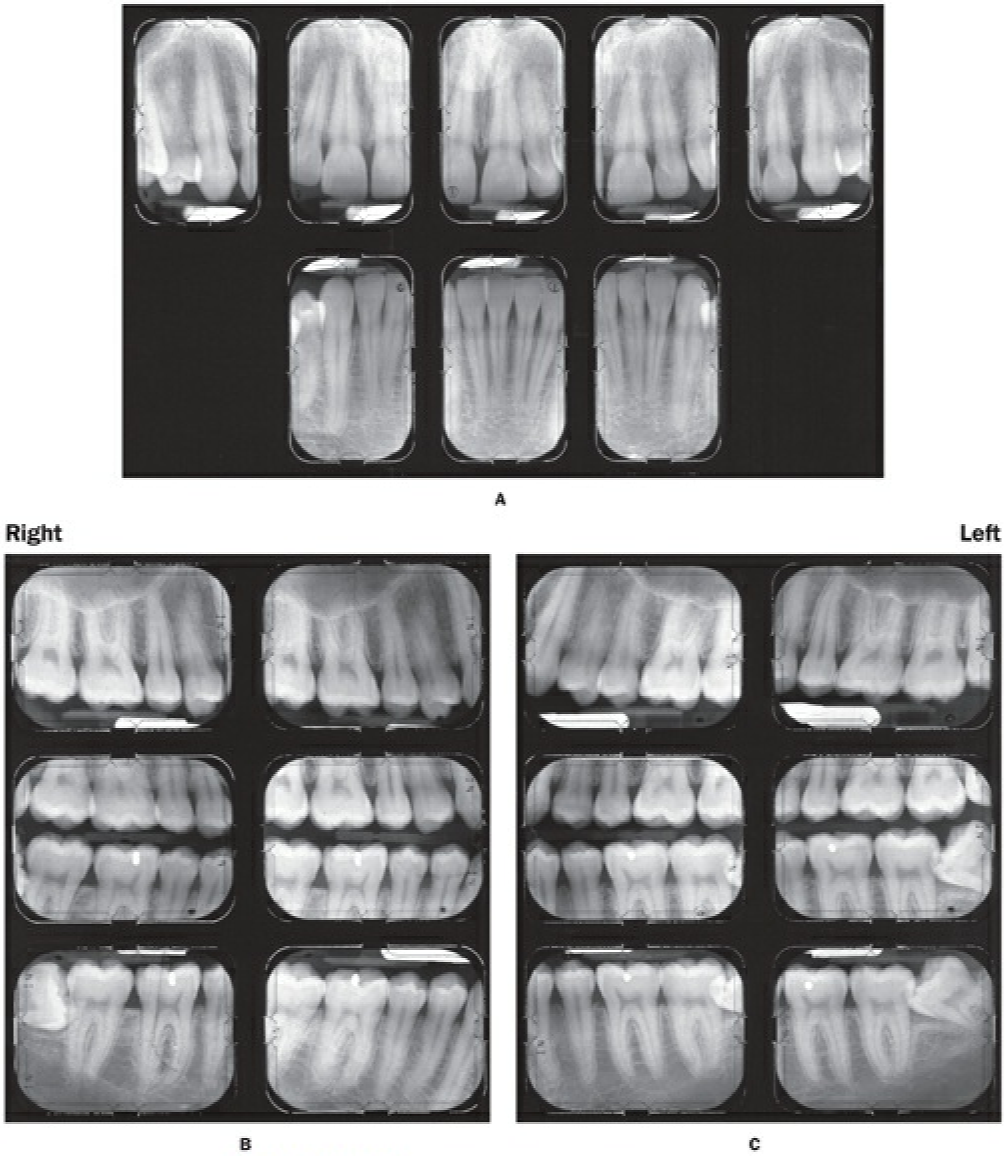
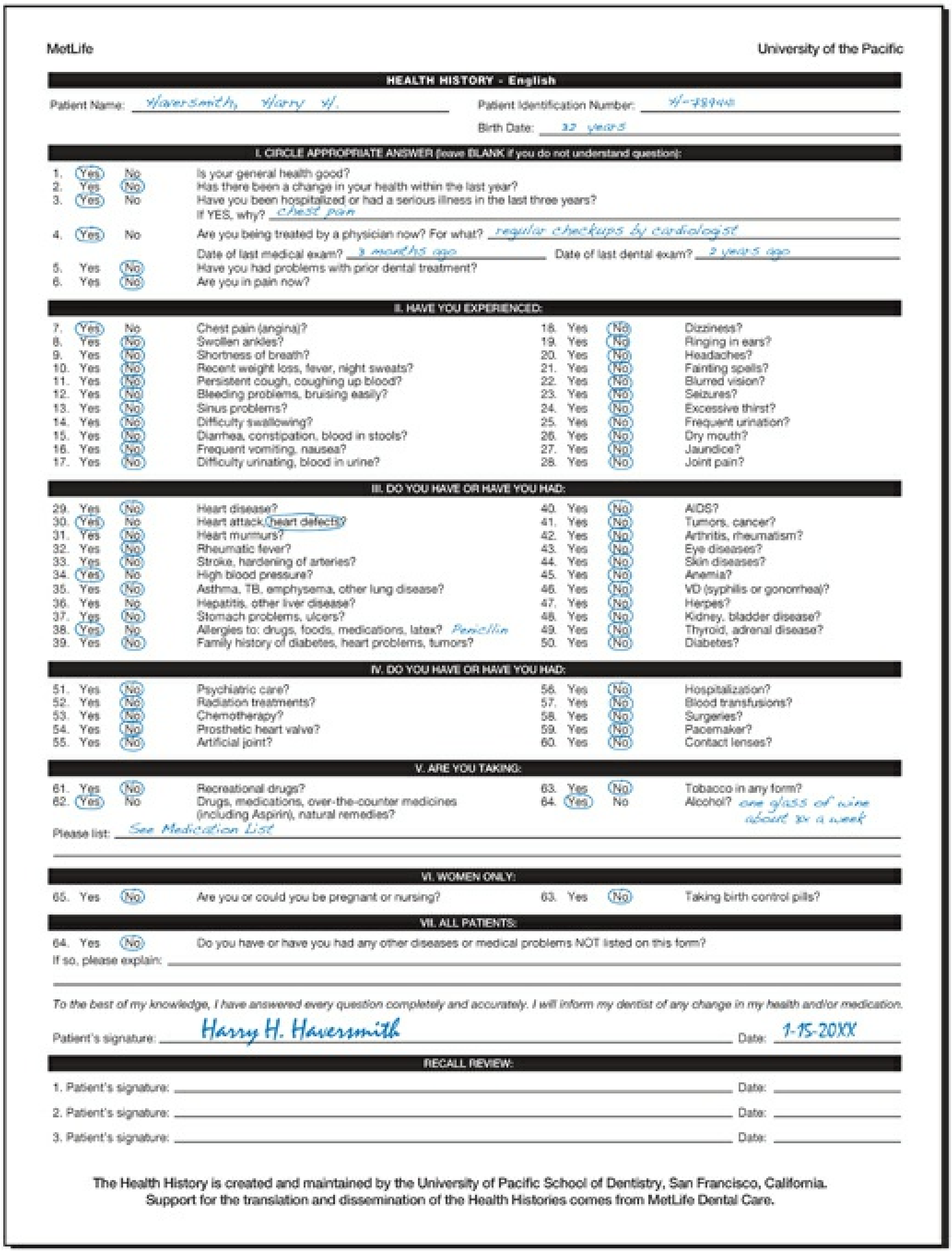

A
Right
Left
B
C

FIGURE 18-16A–C Radiographs for fictitious patient G.

SECTION 3 • Fictitious Patient H, Harry Haversmith



MetLife University of the Pacific

HEALTH HISTORY - English

Patient Name: Haversmith, Harry H.
Patient Identification Number: H-78940
Birth Date: 32 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1.	[✓ Yes]	No	Is your general health good?
2.	Yes	[✓ No]	Has there been a change in your health within the last year?
3.	[✓ Yes]	No	Have you been hospitalized or had a serious illness in the last three years? If YES, why? chest pain
4.	[✓ Yes]	No	Are you being treated by a physician now? For what? regular checkups by cardiologist
			Date of last medical exam? 3 months ago Date of last dental exam? 2 years ago
5.	Yes	[✓ No]	Have you had problems with prior dental treatment?
6.	Yes	[✓ No]	Are you in pain now?

II. HAVE YOU EXPERIENCED:

7.	[✓ Yes]	No	Chest pain (angina)?	18.	Yes	[✓ No]	Dizziness?
8.	Yes	[✓ No]	Swollen ankles?	19.	Yes	[✓ No]	Ringing in ears?
9.	Yes	[✓ No]	Shortness of breath?	20.	Yes	[✓ No]	Headaches?
10.	Yes	[✓ No]	Recent weight loss, fever, night sweats?	21.	Yes	[✓ No]	Fainting spells?
11.	Yes	[✓ No]	Persistent cough, coughing up blood?	22.	Yes	[✓ No]	Blurred vision?
12.	Yes	[✓ No]	Bleeding problems, bruising easily?	23.	Yes	[✓ No]	Seizures?
13.	Yes	[✓ No]	Sinus problems?	24.	Yes	[✓ No]	Excessive thirst?
14.	Yes	[✓ No]	Difficulty swallowing?	25.	Yes	[✓ No]	Frequent urination?
15.	Yes	[✓ No]	Diarrhea, constipation, blood in stools?	26.	Yes	[✓ No]	Dry mouth?
16.	Yes	[✓ No]	Frequent vomiting, nausea?	27.	Yes	[✓ No]	Jaundice?
17.	Yes	[✓ No]	Difficulty urinating, blood in urine?	28.	Yes	[✓ No]	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes	[✓ No]	Heart disease?	40.	Yes	[✓ No]	AIDS?
30.	[✓ Yes]	No	Heart attack, [✓ heart defects]?	41.	Yes	[✓ No]	Tumors, cancer?
31.	Yes	[✓ No]	Heart murmurs?	42.	Yes	[✓ No]	Arthritis, rheumatism?
32.	Yes	[✓ No]	Rheumatic fever?	43.	Yes	[✓ No]	Eye diseases?
33.	Yes	[✓ No]	Stroke, hardening of arteries?	44.	Yes	[✓ No]	Skin diseases?
34.	[✓ Yes]	No	High blood pressure?	45.	Yes	[✓ No]	Anemia?
35.	Yes	[✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes	[✓ No]	VD (syphilis or gonorrhea)?
36.	Yes	No	Hepatitis, other liver disease?	47.	Yes	[✓ No]	Herpes?
37.	Yes	[✓ No]	Stomach problems, ulcers?	48.	Yes	[✓ No]	Kidney, bladder disease?
38.	[✓ Yes]	No	Allergies to: drugs, foods, medications, latex? Penicillin	49.	Yes	[✓ No]	Thyroid, adrenal disease?
39.	Yes	[✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes	[✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes	[✓ No]	Psychiatric care?	56.	Yes	[✓ No]	Hospitalization?
52.	Yes	[✓ No]	Radiation treatments?	57.	Yes	[✓ No]	Blood transfusions?
53.	Yes	[✓ No]	Chemotherapy?	58.	Yes	[✓ No]	Surgeries?
54.	Yes	[✓ No]	Prosthetic heart valve?	59.	Yes	[✓ No]	Pacemaker?
55.	Yes	[✓ No]	Artificial joint?	60.	Yes	[✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes	[✓ No]	Recreational drugs?	63.	Yes	[✓ No]	Tobacco in any form?
62.	[✓ Yes]	No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	[✓ Yes]	No	Alcohol? one glass of wine about 3x a week

Please list: See Medication List

VI. WOMEN ONLY:

65.	Yes	[✓ No]	Are you or could you be pregnant or nursing?	63.	Yes	[✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64.	Yes	[✓ No]	Do you have or have you had any other diseases or medical problems NOT listed on this form?

If so, please explain:

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

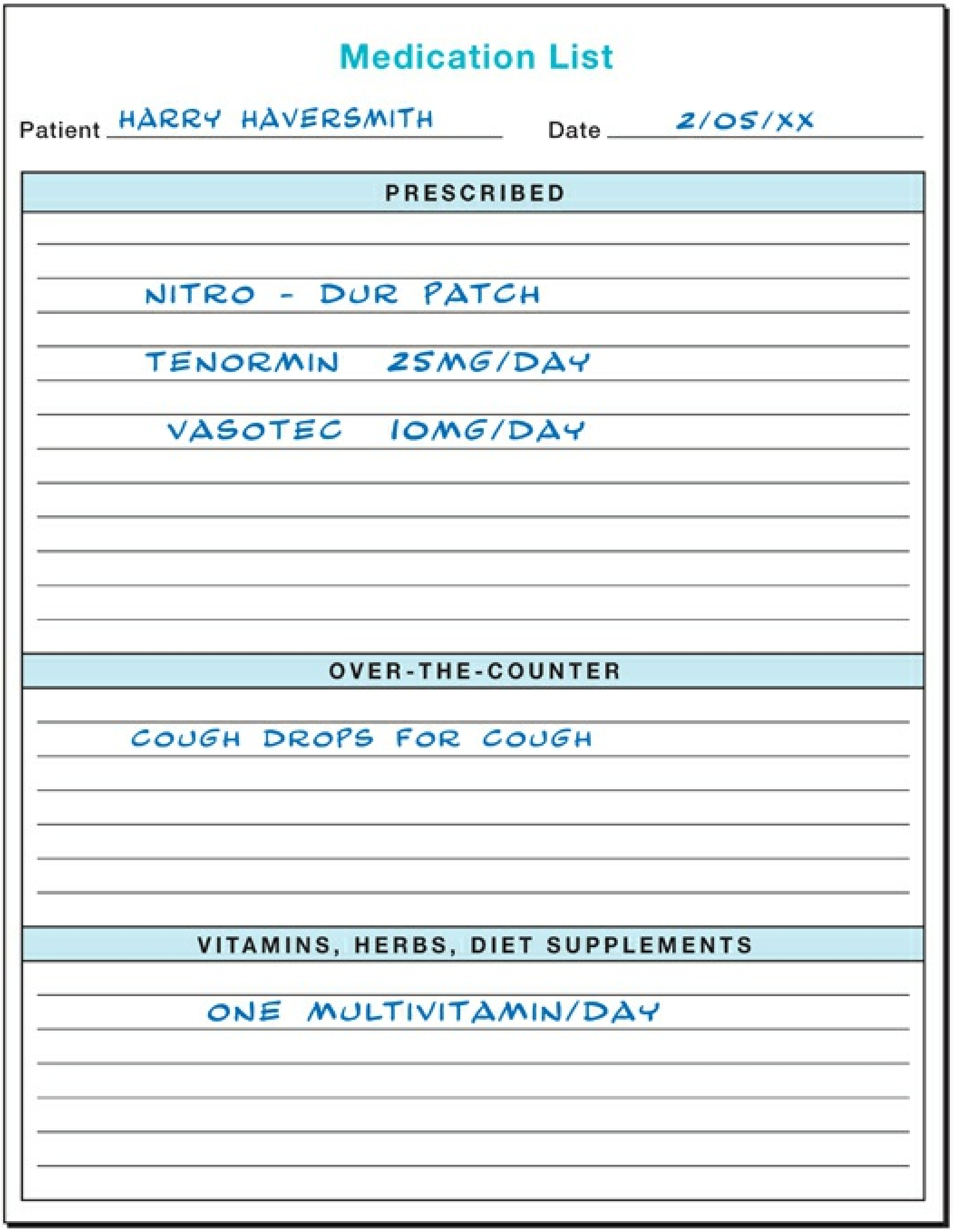
Patient's signature: Harry H. Haversmith Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: Date:
2. Patient's signature: Date:
3. Patient's signature: Date:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California. Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 18-17 **Medical history for fictitious patient H.**



Medication List

Patient HARRY HAVERSMITH Date 2/05/XX

PRESCRIBED

NITRO - DUR PATCH

TENORMIN 25MG/DAY

VASOTEC 10MG/DAY

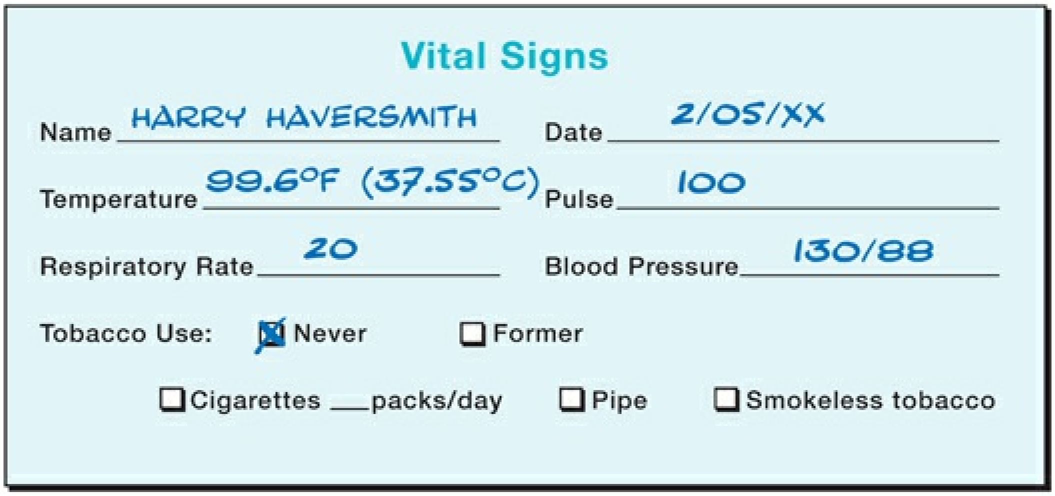
OVER-THE-COUNTER

COUGH DROPS FOR COUGH

VITAMINS, HERBS, DIET SUPPLEMENTS

ONE MULTIVITAMIN/DAY

FIGURE 18-18 Medication list for fictitious patient H.



Vital Signs

Name HARRY HAVERSMITH Date 2/05/XX

Temperature 99.6°F (37.55°C) Pulse 100

Respiratory Rate 20 Blood Pressure 130/88

Tobacco Use: ☒ Never ☐ Former

☐ Cigarettes ___packs/day ☐ Pipe ☐ Smokeless tobacco

FIGURE 18-19 Vital signs findings for fictitious patient H.

Finding:

Location: left side of neck below border of the mandible

Size:

8 cm in superior-inferior length;

4 cm in width

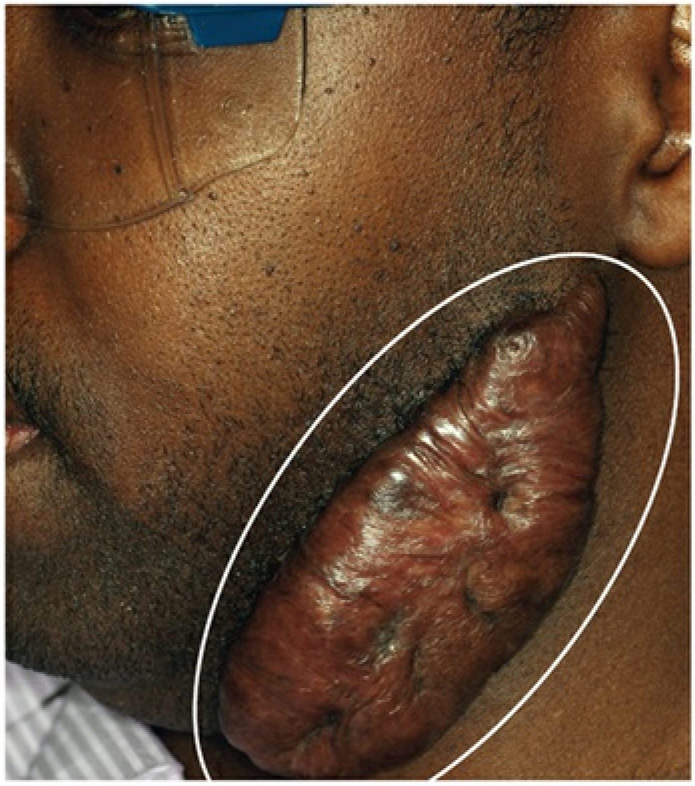


FIGURE 18-20 Finding for fictitious patient H.

Finding:

Location: raised lesion on dorsal surface of tongue

Size: 0.5 mm in diameter

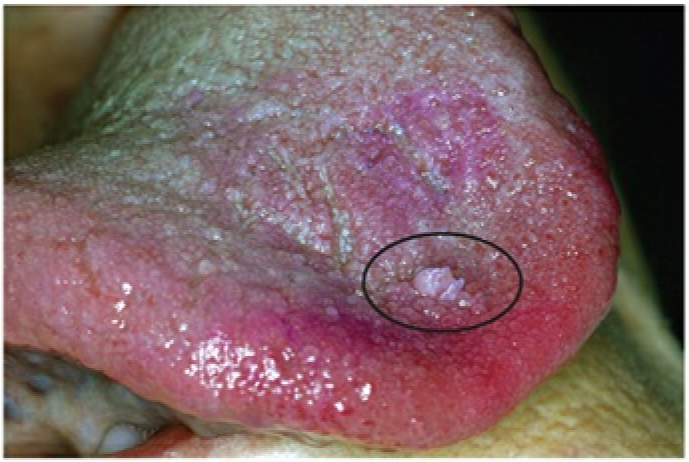


FIGURE 18-21 Finding for fictitious patient H.

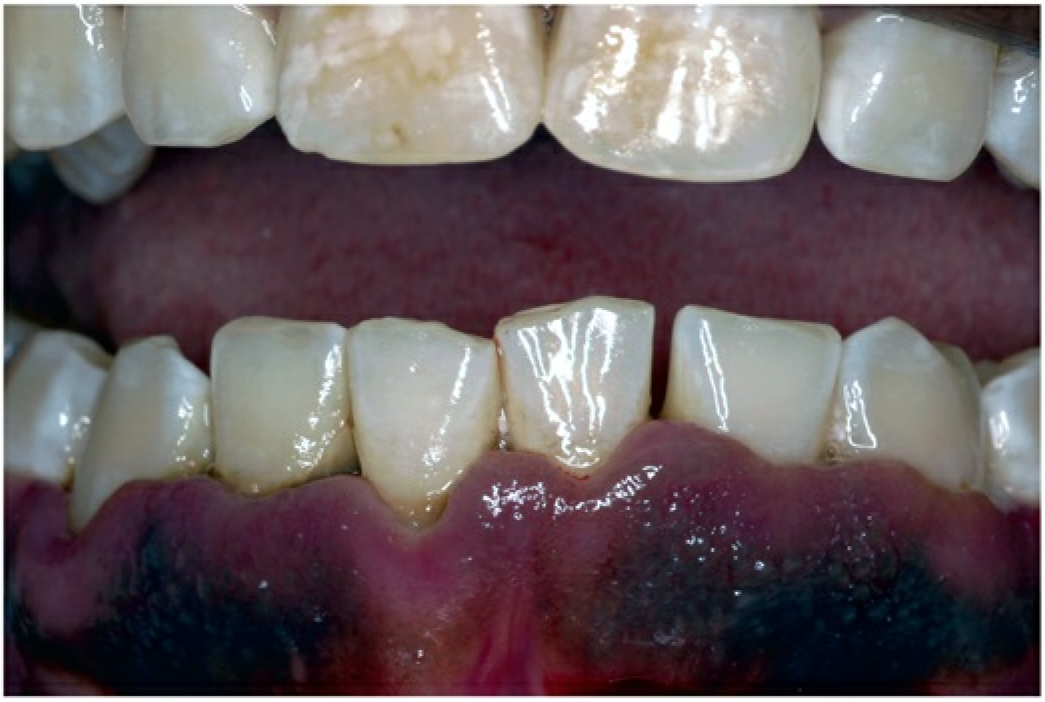


FIGURE 18-22 Fictitious patient H: mandibular anterior sextant, facial aspect.

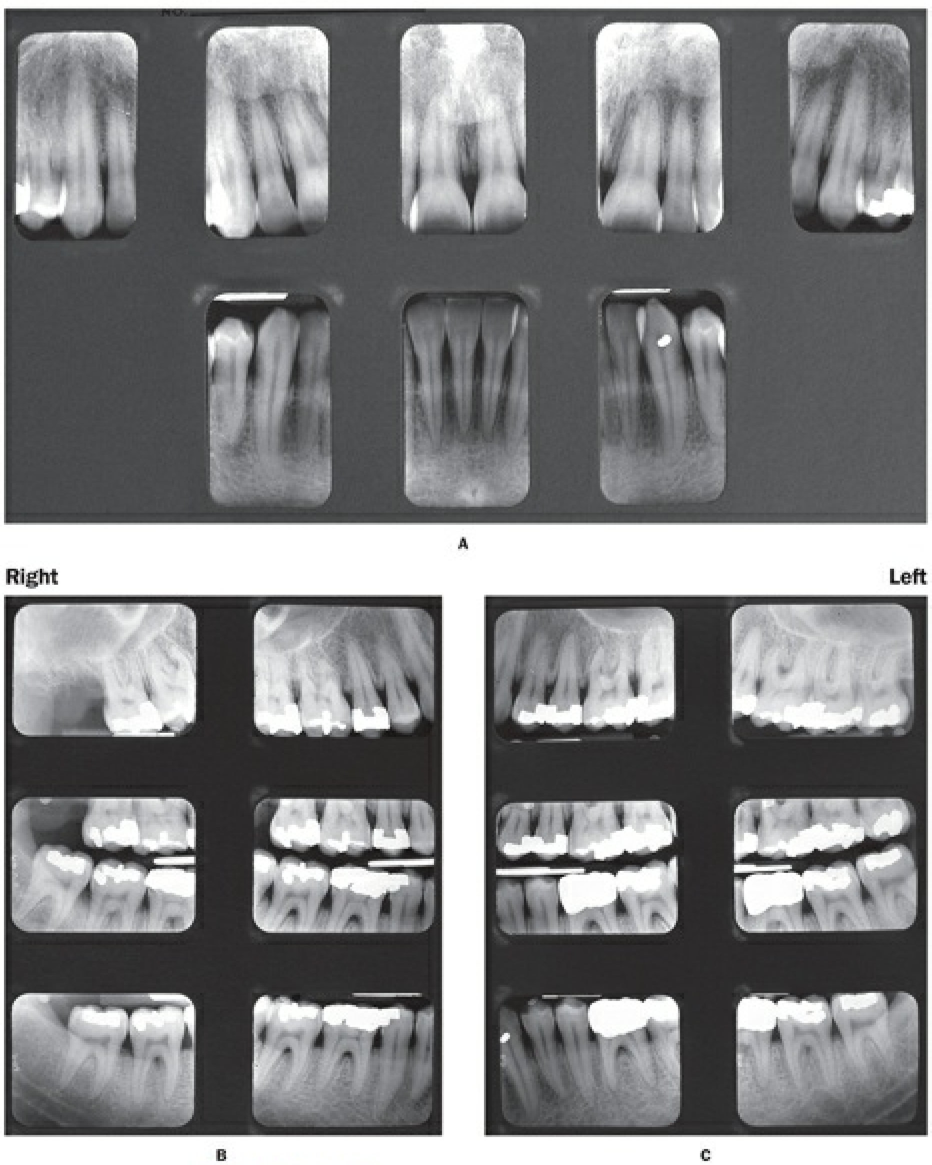
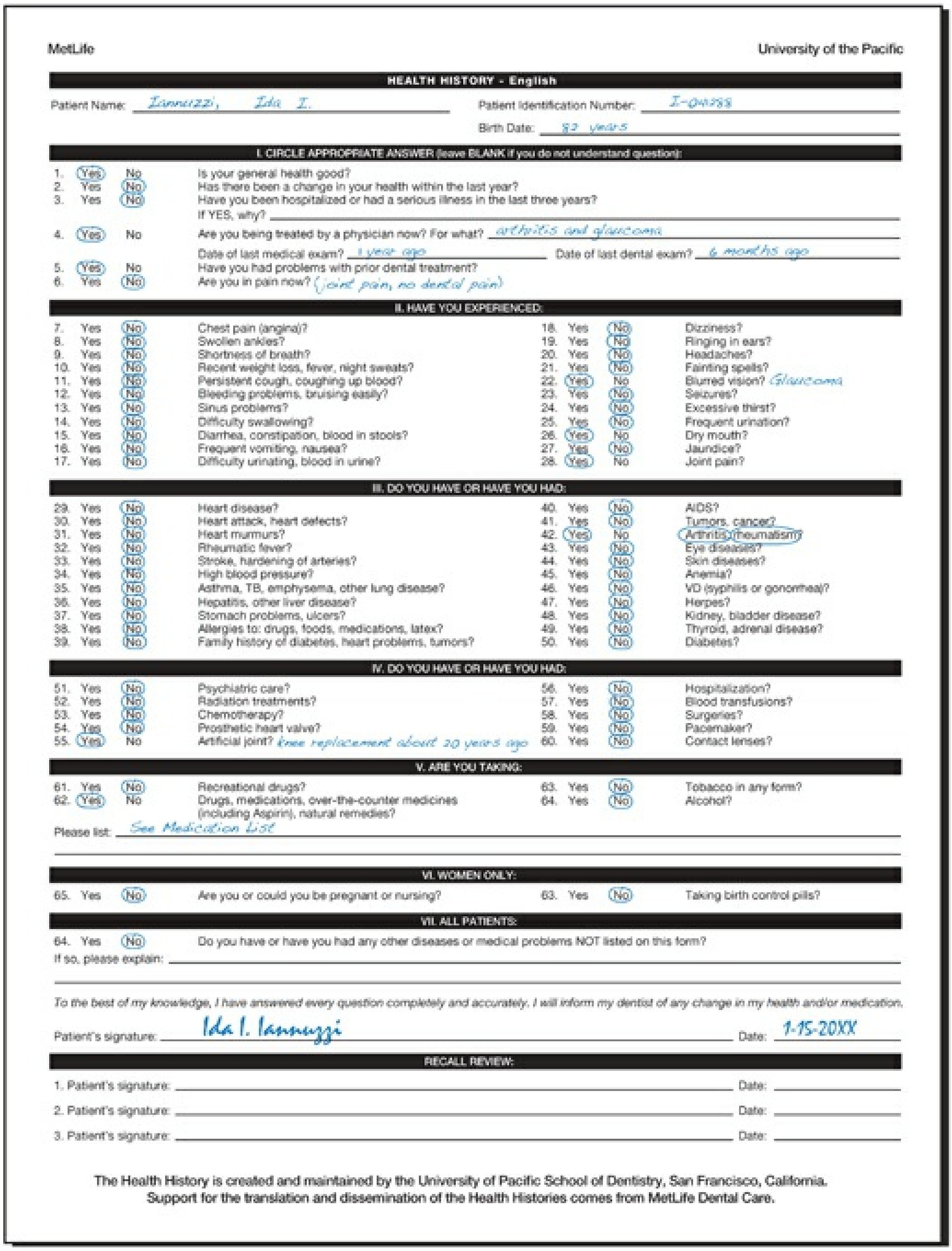

NO.
A
Right
Left
B
C

FIGURE 18-23A–C Radiographs for fictitious patient H.

SECTION 4 • Fictitious Patient I, Ida Iannuzzi



MetLife University of the Pacific

HEALTH HISTORY - English

Patient Name: Iannuzzi, Ida I.
Patient Identification Number: I-04788
Birth Date: 82 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1. [✓ Yes] No Is your general health good?
2. Yes [✓ No] Has there been a change in your health within the last year?
3. Yes [✓ No] Have you been hospitalized or had a serious illness in the last three years?
If YES, why?
4. [✓ Yes] No Are you being treated by a physician now? For what? arthritis and glaucoma
Date of last medical exam? 1 year ago Date of last dental exam? 6 months ago
5. [✓ Yes] No Have you had problems with prior dental treatment?
6. Yes [✓ No] Are you in pain now? (joint pain, no dental pain)

II. HAVE YOU EXPERIENCED:

7.	Yes	[✓ No]	Chest pain (angina)?	18.	Yes	[✓ No]	Dizziness?
8.	Yes	[✓ No]	Swollen ankles?	19.	Yes	[✓ No]	Ringing in ears?
9.	Yes	[✓ No]	Shortness of breath?	20.	Yes	[✓ No]	Headaches?
10.	Yes	[✓ No]	Recent weight loss, fever, night sweats?	21.	Yes	[✓ No]	Fainting spells?
11.	Yes	[✓ No]	Persistent cough, coughing up blood?	22.	[✓ Yes]	No	Blurred vision? Glaucoma
12.	Yes	[✓ No]	Bleeding problems, bruising easily?	23.	Yes	[✓ No]	Seizures?
13.	Yes	[✓ No]	Sinus problems?	24.	Yes	[✓ No]	Excessive thirst?
14.	Yes	[✓ No]	Difficulty swallowing?	25.	Yes	[✓ No]	Frequent urination?
15.	Yes	[✓ No]	Diarrhea, constipation, blood in stools?	26.	[✓ Yes]	No	Dry mouth?
16.	Yes	[✓ No]	Frequent vomiting, nausea?	27.	Yes	[✓ No]	Jaundice?
17.	Yes	[✓ No]	Difficulty urinating, blood in urine?	28.	[✓ Yes]	No	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes	[✓ No]	Heart disease?	40.	Yes	[✓ No]	AIDS?
30.	Yes	[✓ No]	Heart attack, heart defects?	41.	Yes	[✓ No]	Tumors, cancer?
31.	Yes	[✓ No]	Heart murmurs?	42.	[✓ Yes]	No	[✓ Arthritis] [✓ rheumatism]?
32.	Yes	[✓ No]	Rheumatic fever?	43.	Yes	[✓ No]	Eye diseases?
33.	Yes	[✓ No]	Stroke, hardening of arteries?	44.	Yes	[✓ No]	Skin diseases?
34.	Yes	[✓ No]	High blood pressure?	45.	Yes	[✓ No]	Anemia?
35.	Yes	[✓ No]	Asthma, TB, emphysema, other lung disease?	46.	Yes	[✓ No]	VD (syphilis or gonorrhea)?
36.	Yes	[✓ No]	Hepatitis, other liver disease?	47.	Yes	[✓ No]	Herpes?
37.	Yes	[✓ No]	Stomach problems, ulcers?	48.	Yes	[✓ No]	Kidney, bladder disease?
38.	Yes	[✓ No]	Allergies to: drugs, foods, medications, latex?	49.	Yes	[✓ No]	Thyroid, adrenal disease?
39.	Yes	[✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes	[✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes	[✓ No]	Psychiatric care?	56.	Yes	[✓ No]	Hospitalization?
52.	Yes	[✓ No]	Radiation treatments?	57.	Yes	[✓ No]	Blood transfusions?
53.	Yes	[✓ No]	Chemotherapy?	58.	Yes	[✓ No]	Surgeries?
54.	Yes	[✓ No]	Prosthetic heart valve?	59.	Yes	[✓ No]	Pacemaker?
55.	[✓ Yes]	No	Artificial joint? knee replacement about 20 years ago	60.	Yes	[✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes	[✓ No]	Recreational drugs?	63.	Yes	[✓ No]	Tobacco in any form?
62.	[✓ Yes]	No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes	[✓ No]	Alcohol?

Please list: See Medication List

VI. WOMEN ONLY:

65.	Yes	[✓ No]	Are you or could you be pregnant or nursing?	63.	Yes	[✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64. Yes [✓ No] Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain:

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

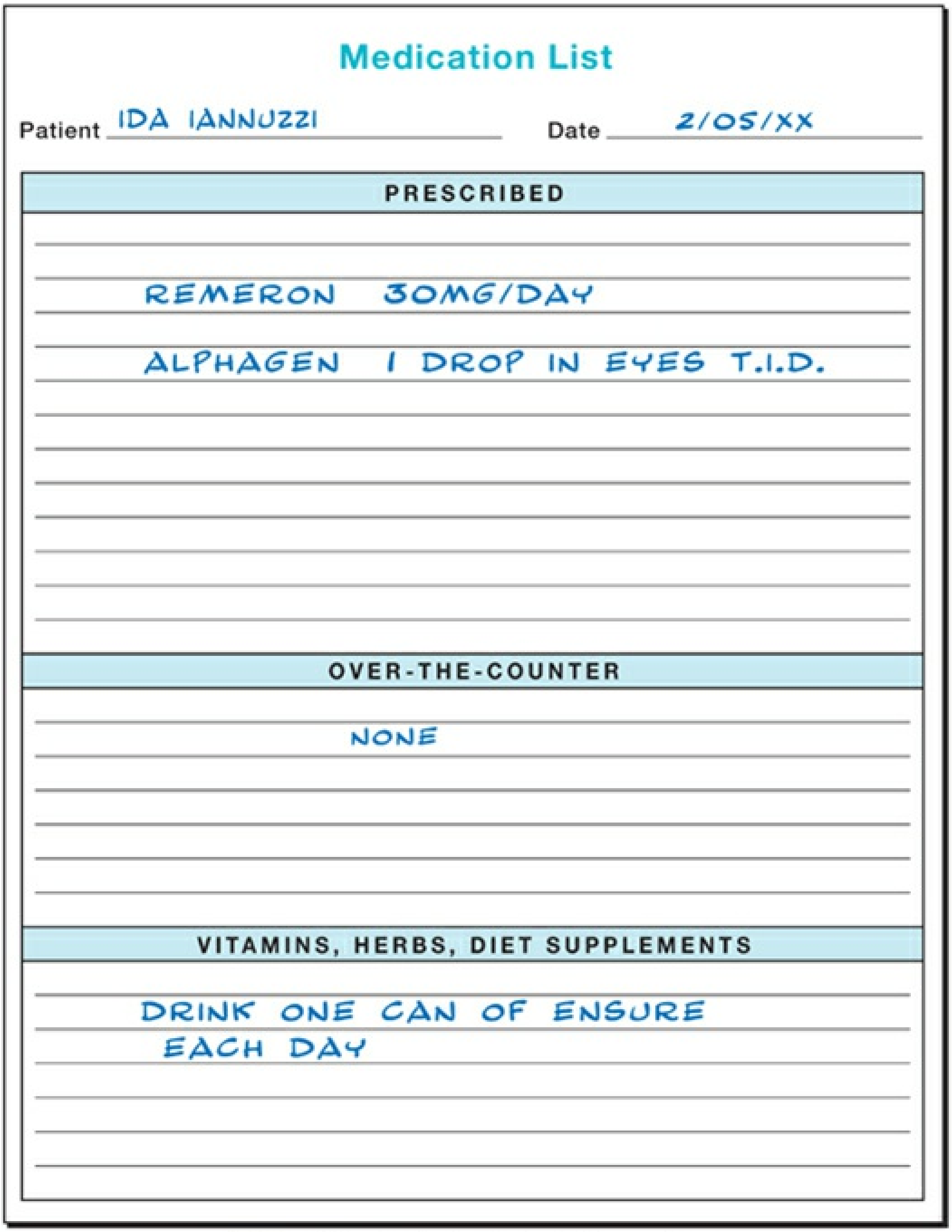
Patient's signature: Ida I. Iannuzzi Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: Date:
2. Patient's signature: Date:
3. Patient's signature: Date:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 18-24 Medical history for fictitious patient I.



Medication List

Patient IDA IANNUZZI Date 2/05/XX

PRESCRIBED

REMERON 30MG/DAY

ALPHAGEN 1 DROP IN EYES T.I.D.

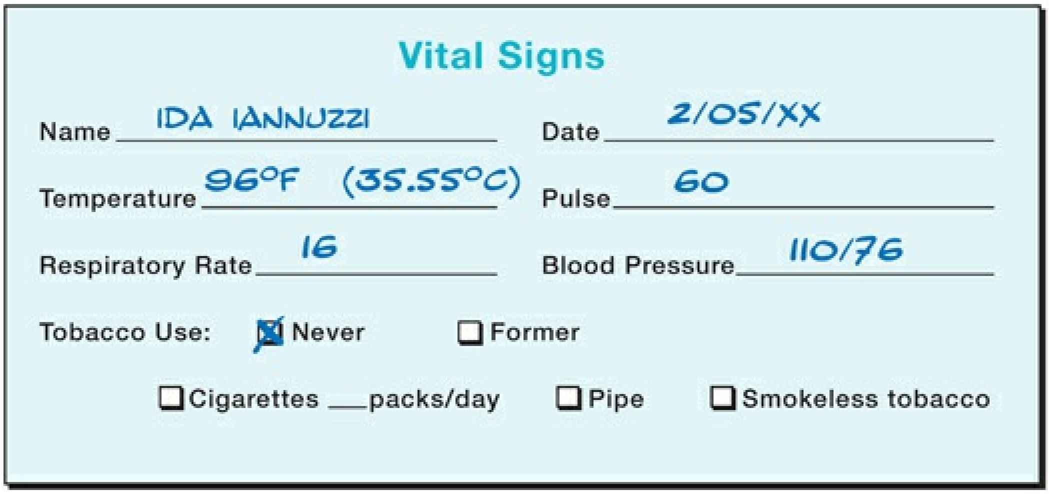
OVER-THE-COUNTER

NONE

VITAMINS, HERBS, DIET SUPPLEMENTS

DRINK ONE CAN OF ENSURE
EACH DAY

FIGURE 18-25 Medication list for fictitious patient I.



Vital Signs

Name IDA IANNUZZI
Date 2/05/XX
Temperature 96°F (35.55°C)
Pulse 60
Respiratory Rate 16
Blood Pressure 110/76
Tobacco Use: ☒ Never ☐ Former
☐ Cigarettes __packs/day ☐ Pipe ☐ Smokeless tobacco

FIGURE 18-26 Vital signs findings for fictitious patient I.

Finding:

Location: corners of the lips

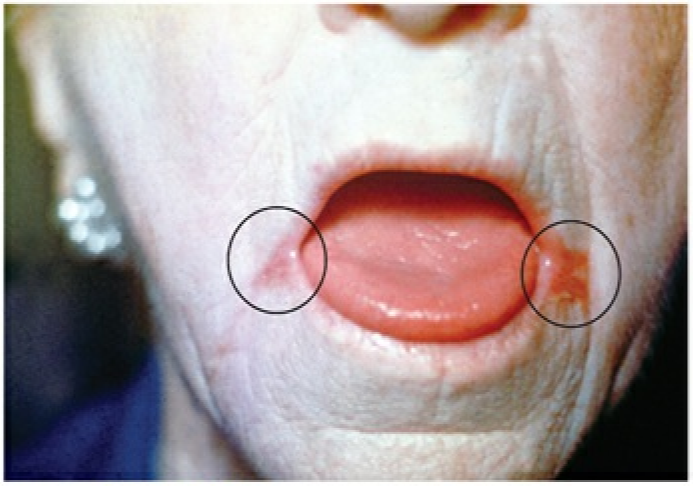


FIGURE 18-27 Finding for fictitious patient I.

Finding:

Location: right buccal mucosa

Size: 1 cm in superior-inferior length; 5 mm in anterior-posterior width

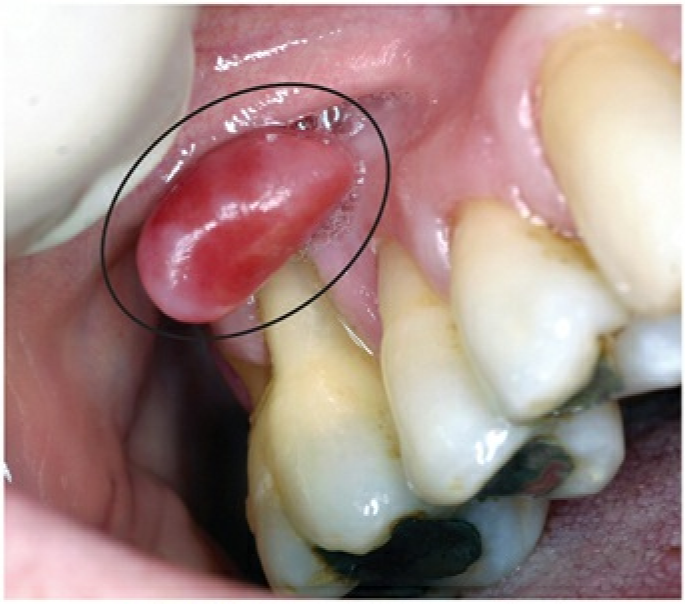


FIGURE 18-28 Finding for fictitious patient I.

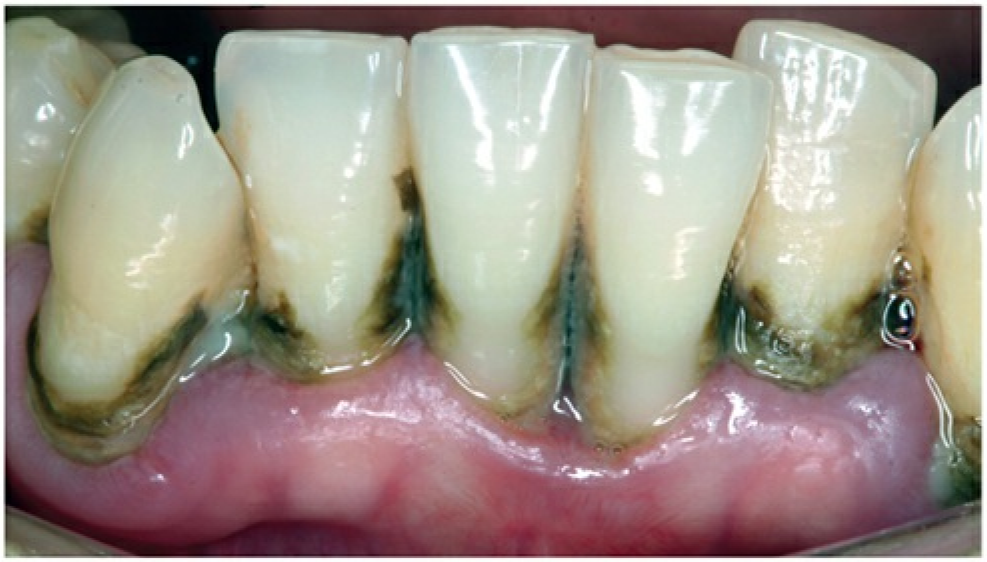


FIGURE 18-29 Fictitious patient I: mandibular anterior sextant, facial aspect.

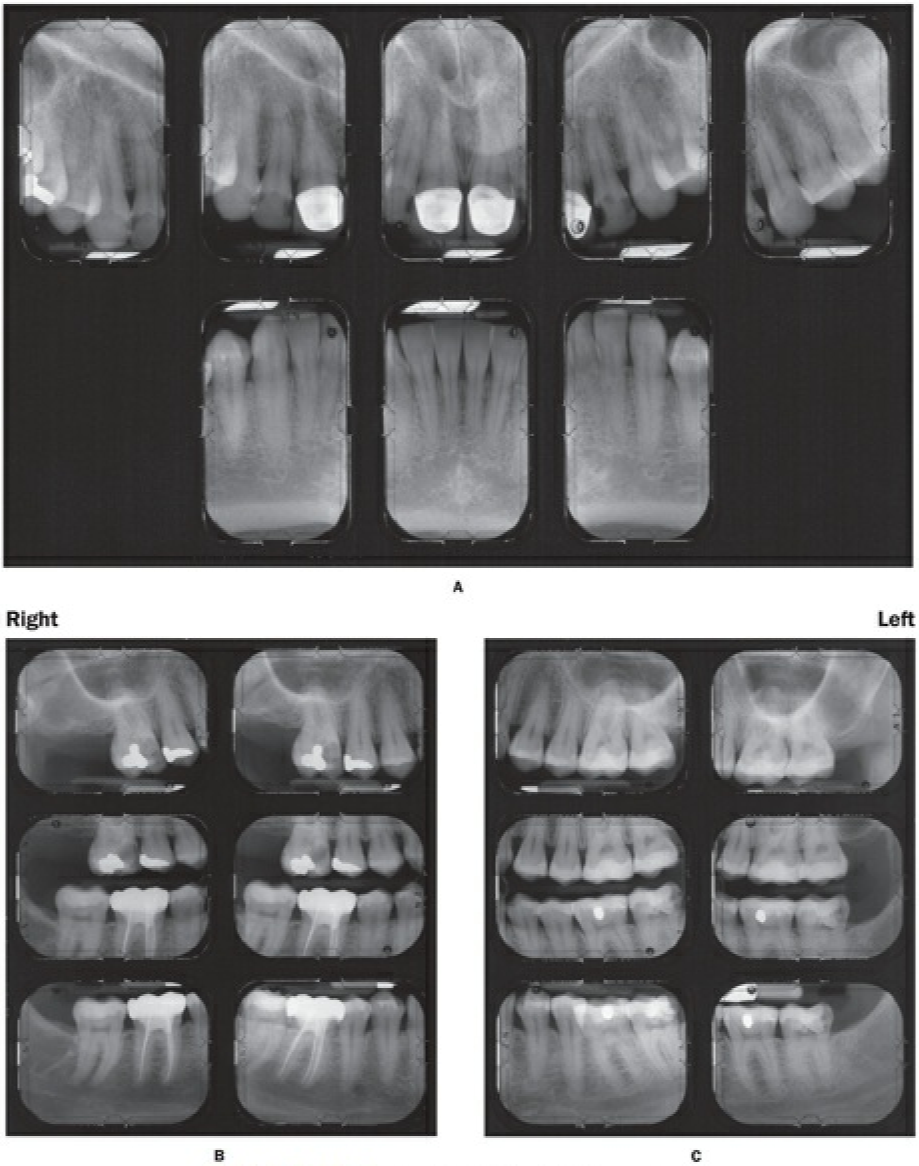
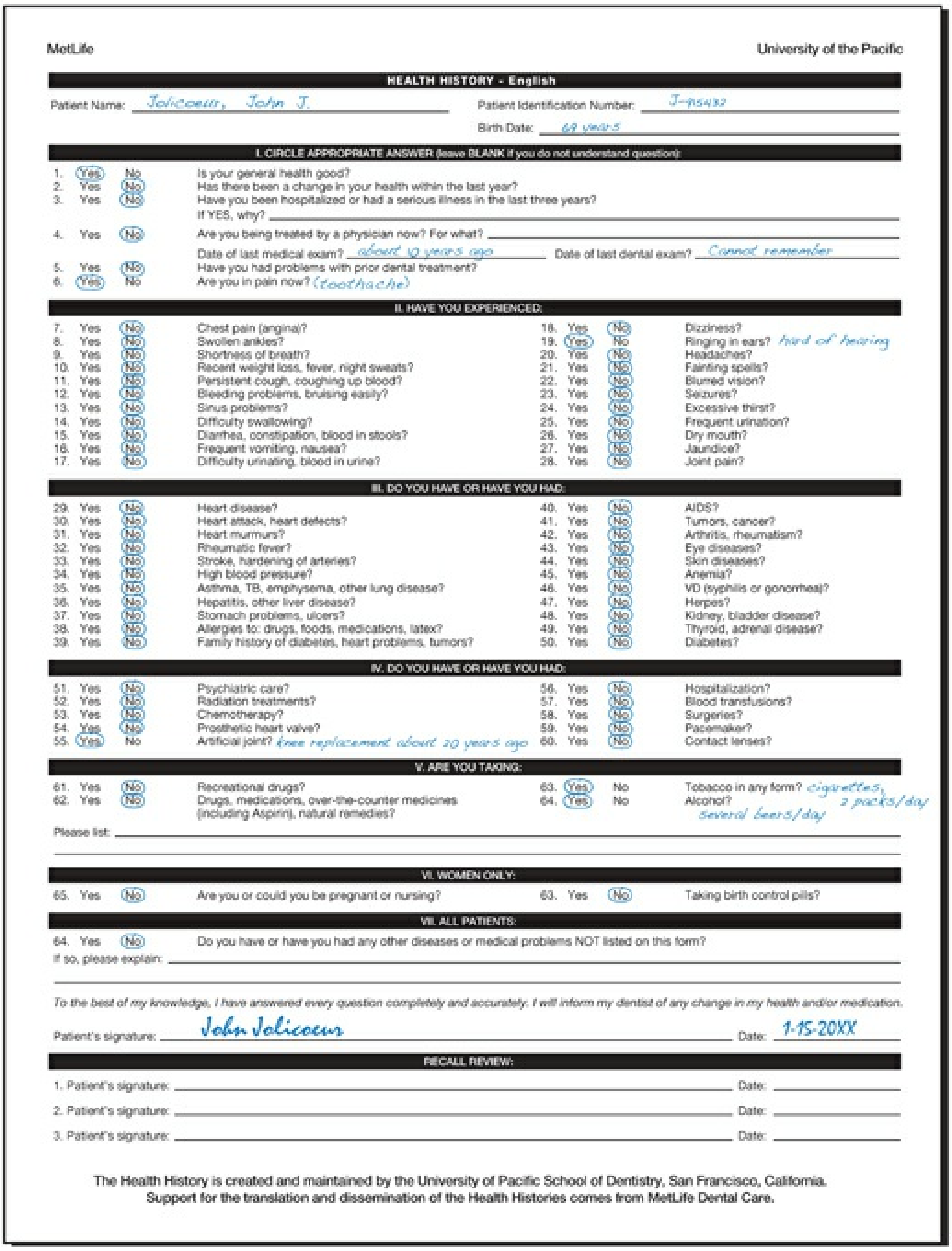
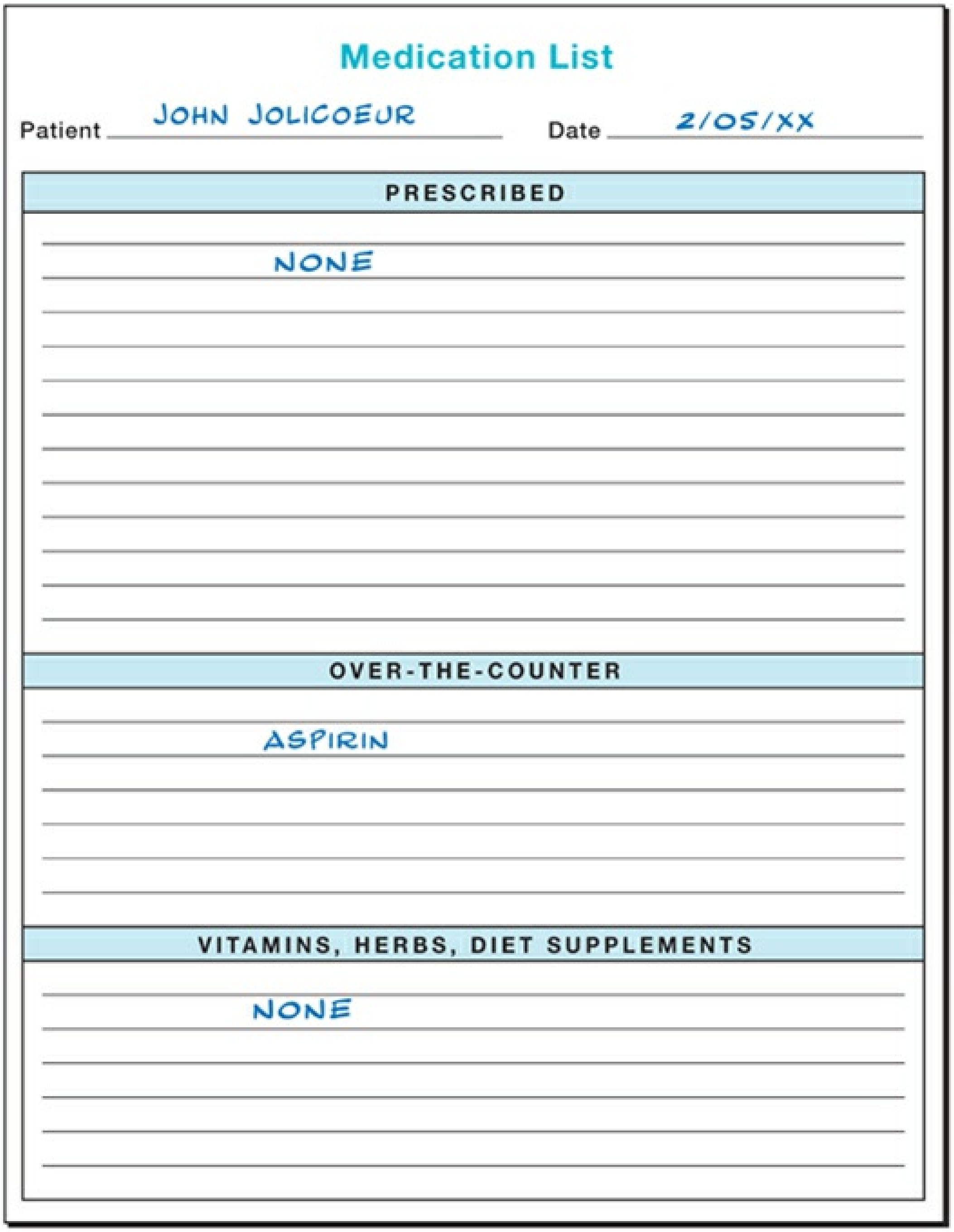

A
Right
Left
B
C

FIGURE 18-30A–C Radiographs for fictitious patient I.

SECTION 5 • Fictitious Patient J, John Jolioceur





Medication List

Patient JOHN JOLICOEUR Date 2/05/XX

PRESCRIBED

NONE

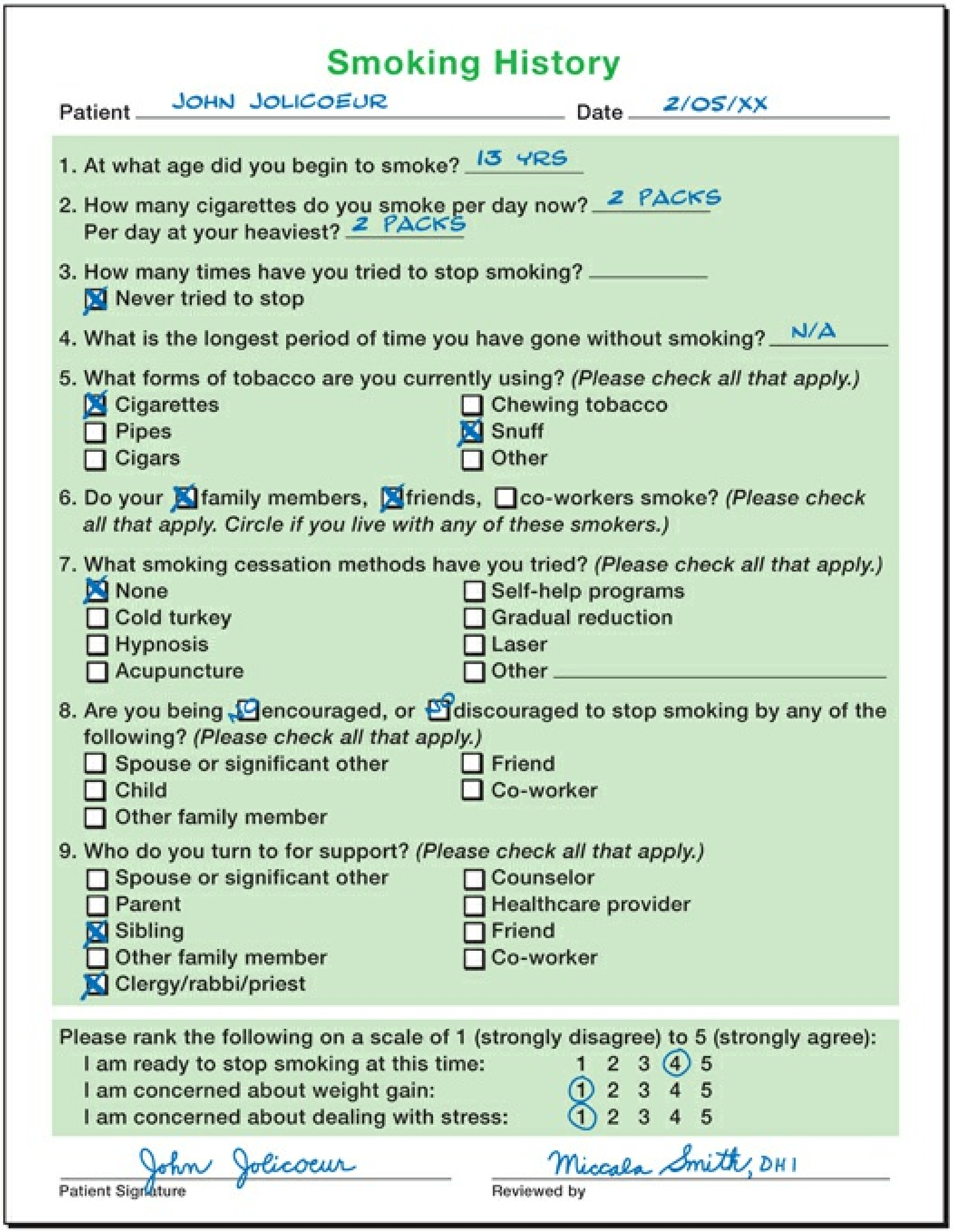
OVER-THE-COUNTER

ASPIRIN

VITAMINS, HERBS, DIET SUPPLEMENTS

NONE

FIGURE 18-32 Medication list for fictitious patient J.



Smoking History

Patient JOHN JOLICOEUR Date 2/05/XX

1. At what age did you begin to smoke? 13 YRS

2. How many cigarettes do you smoke per day now? 2 PACKS
Per day at your heaviest? 2 PACKS

3. How many times have you tried to stop smoking? ______
☒ Never tried to stop

4. What is the longest period of time you have gone without smoking? N/A

5. What forms of tobacco are you currently using? *(Please check all that apply.)*
☒ Cigarettes
☐ Pipes
☐ Cigars
☐ Chewing tobacco
☒ Snuff
☐ Other

6. Do your ☒ family members, ☒ friends, ☐ co-workers smoke? *(Please check all that apply. Circle if you live with any of these smokers.)*

7. What smoking cessation methods have you tried? *(Please check all that apply.)*
☒ None
☐ Cold turkey
☐ Hypnosis
☐ Acupuncture
☐ Self-help programs
☐ Gradual reduction
☐ Laser
☐ Other ______

8. Are you being ☐ encouraged, or ☐ discouraged to stop smoking by any of the following? *(Please check all that apply.)*
☐ Spouse or significant other
☐ Child
☐ Other family member
☐ Friend
☐ Co-worker

9. Who do you turn to for support? *(Please check all that apply.)*
☐ Spouse or significant other
☐ Parent
☒ Sibling
☐ Other family member
☒ Clergy/rabbi/priest
☐ Counselor
☐ Healthcare provider
☐ Friend
☐ Co-worker

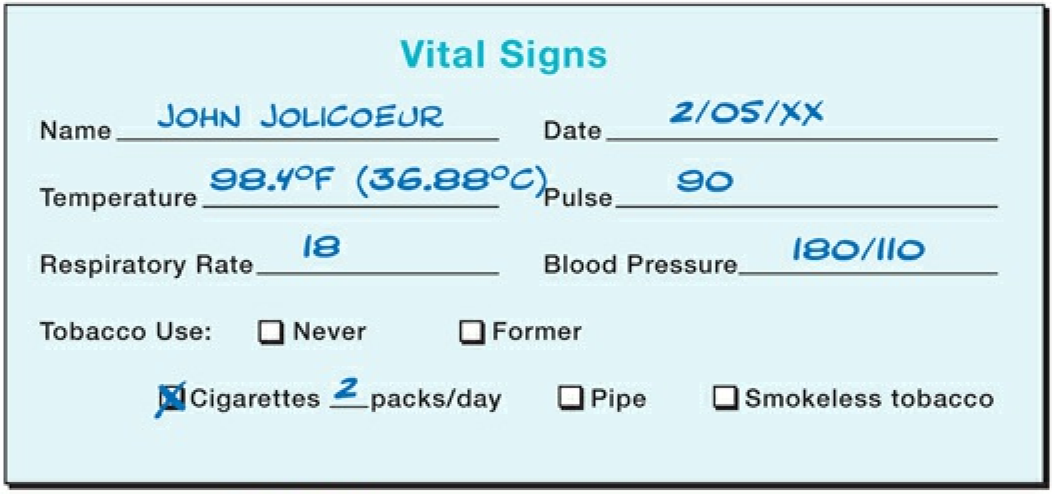
Please rank the following on a scale of 1 (strongly disagree) to 5 (strongly agree):

I am ready to stop smoking at this time:	1 2 3 [✓ 4] 5
I am concerned about weight gain:	[✓ 1] 2 3 4 5
I am concerned about dealing with stress:	[✓ 1] 2 3 4 5

John Jolicoeur
Patient Signature

Miccala Smith, DHI
Reviewed by

FIGURE 18-33 Smoking history for fictitious patient J.



Vital Signs

Name JOHN JOLICOEUR Date 2/05/XX

Temperature 98.4°F (36.88°C) Pulse 90

Respiratory Rate 18 Blood Pressure 180/110

Tobacco Use: ☐ Never ☐ Former

☒ Cigarettes 2 packs/day ☐ Pipe ☐ Smokeless tobacco

FIGURE 18-34 Vital signs findings for fictitious patient J.

Finding:
Location: right side of neck
Size: 5 cm in diameter

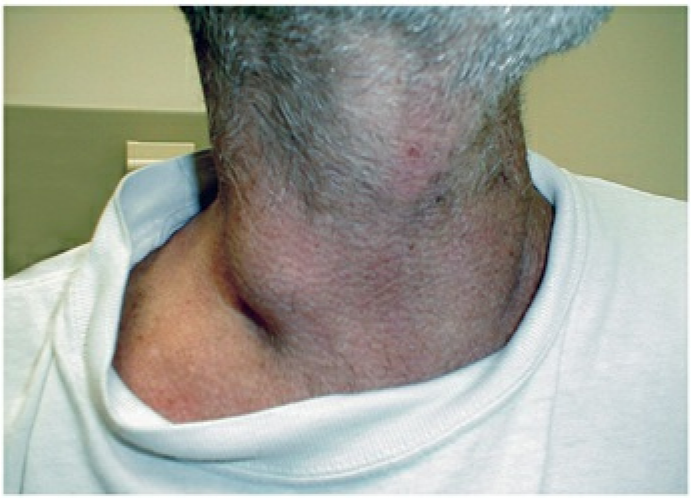


FIGURE 18-35 Finding for fictitious patient J.

Finding:
Location: left side of nose
Size: 6 mm in superior-inferior height at midline of lesion; 17 mm in width

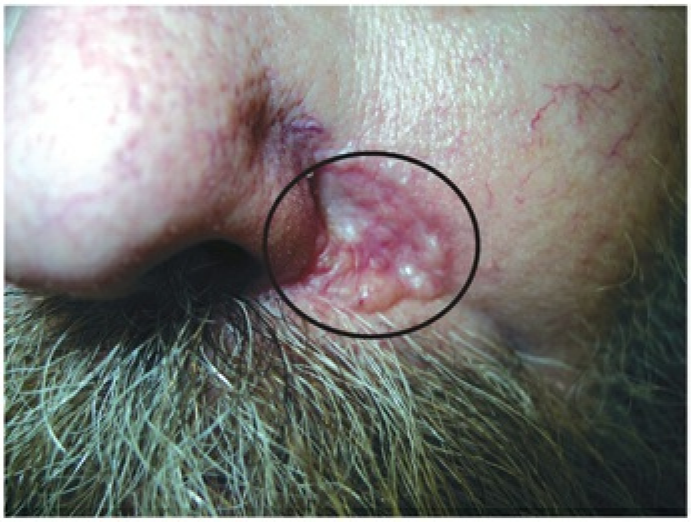


FIGURE 18-36 Finding for fictitious patient J.

Finding:

Location: right, lateral border of tongue

Size: irregular border, approximately 1 cm in diameter

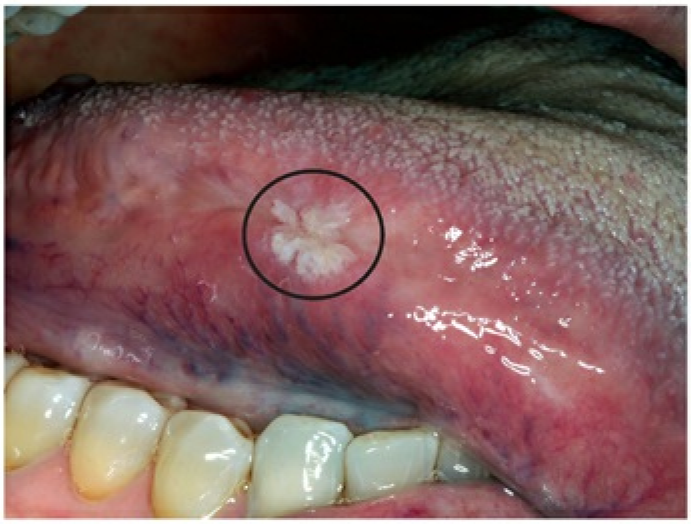


FIGURE 18-37 Finding for fictitious patient J.

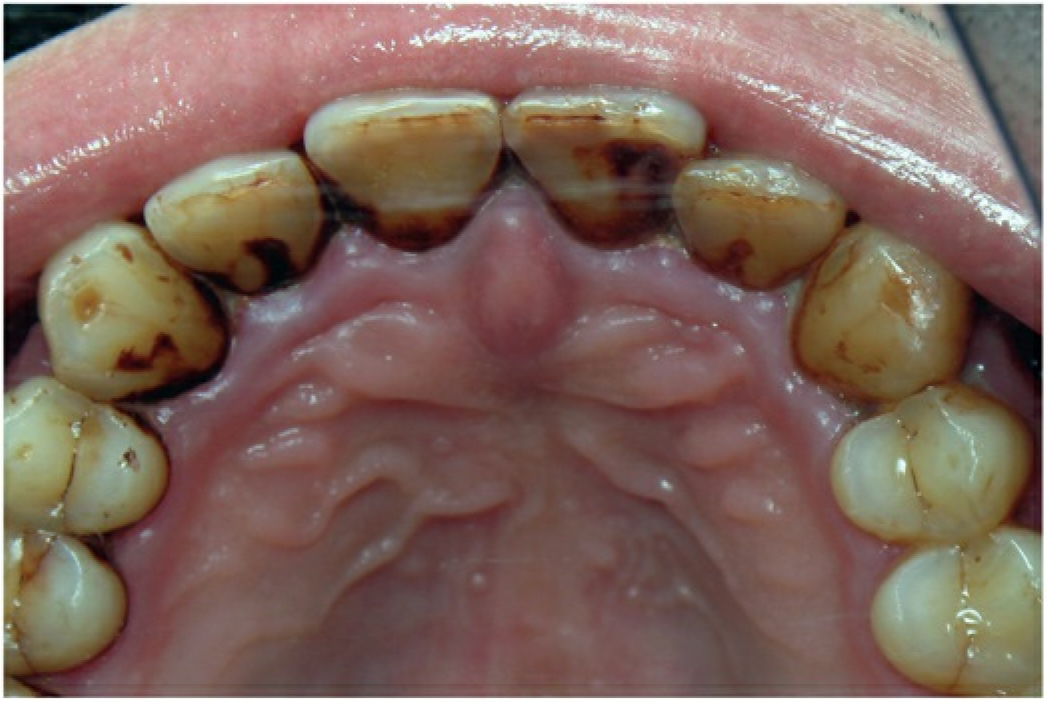


FIGURE 18-38 Fictitious patient J: maxillary anterior sextant, lingual aspect.

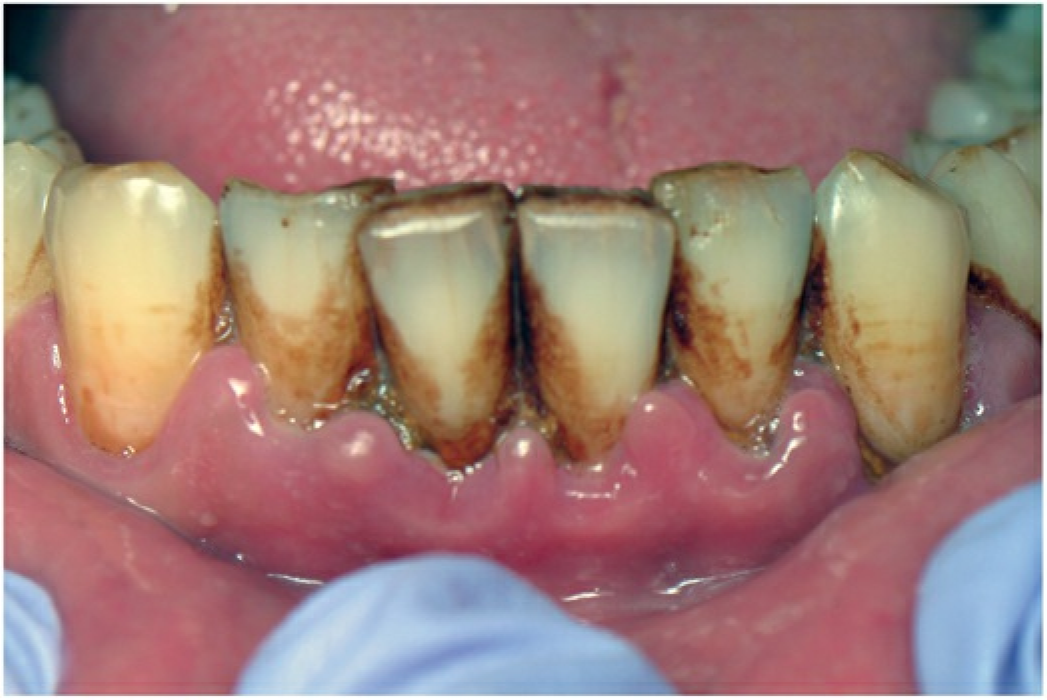


FIGURE 18-39 Fictitious patient J: mandibular anterior sextant, facial aspect.

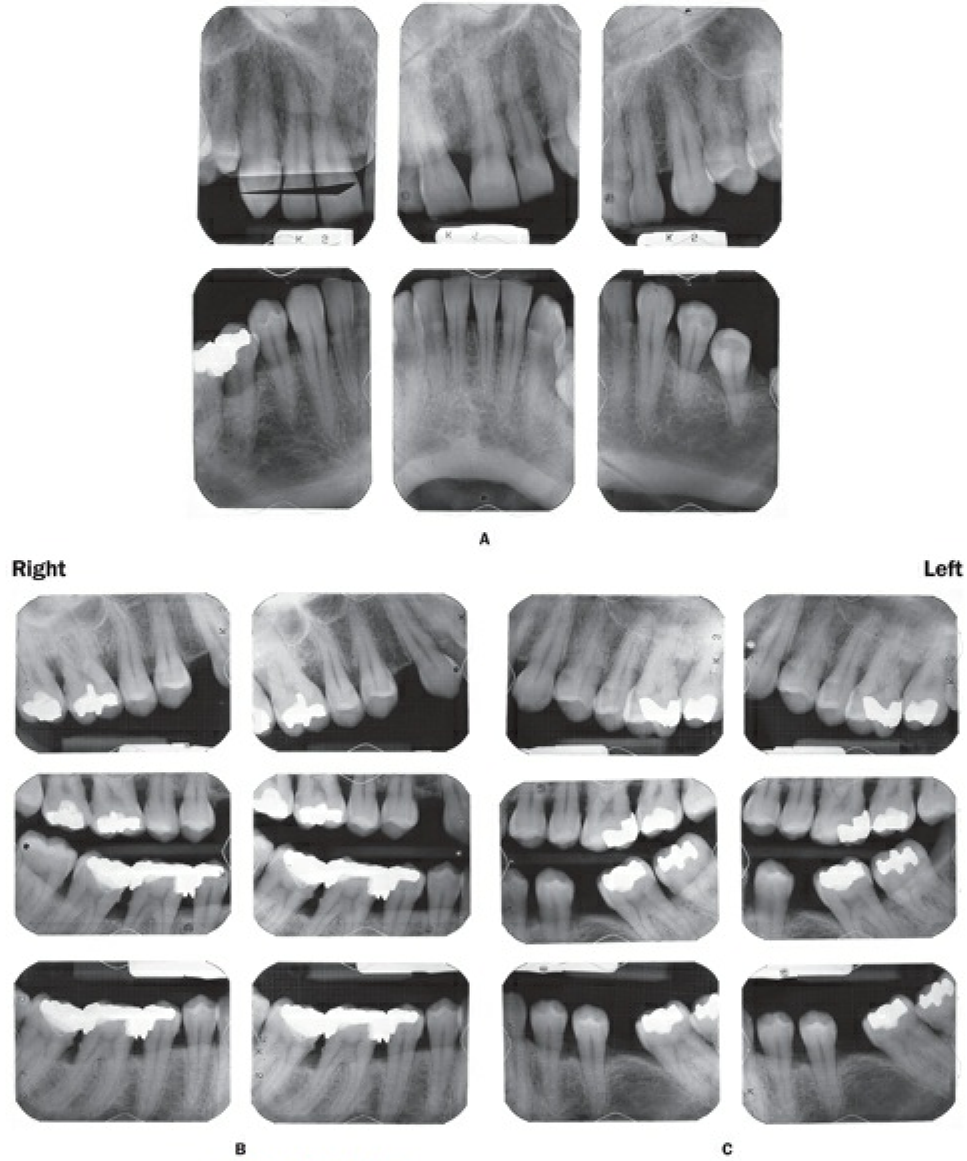
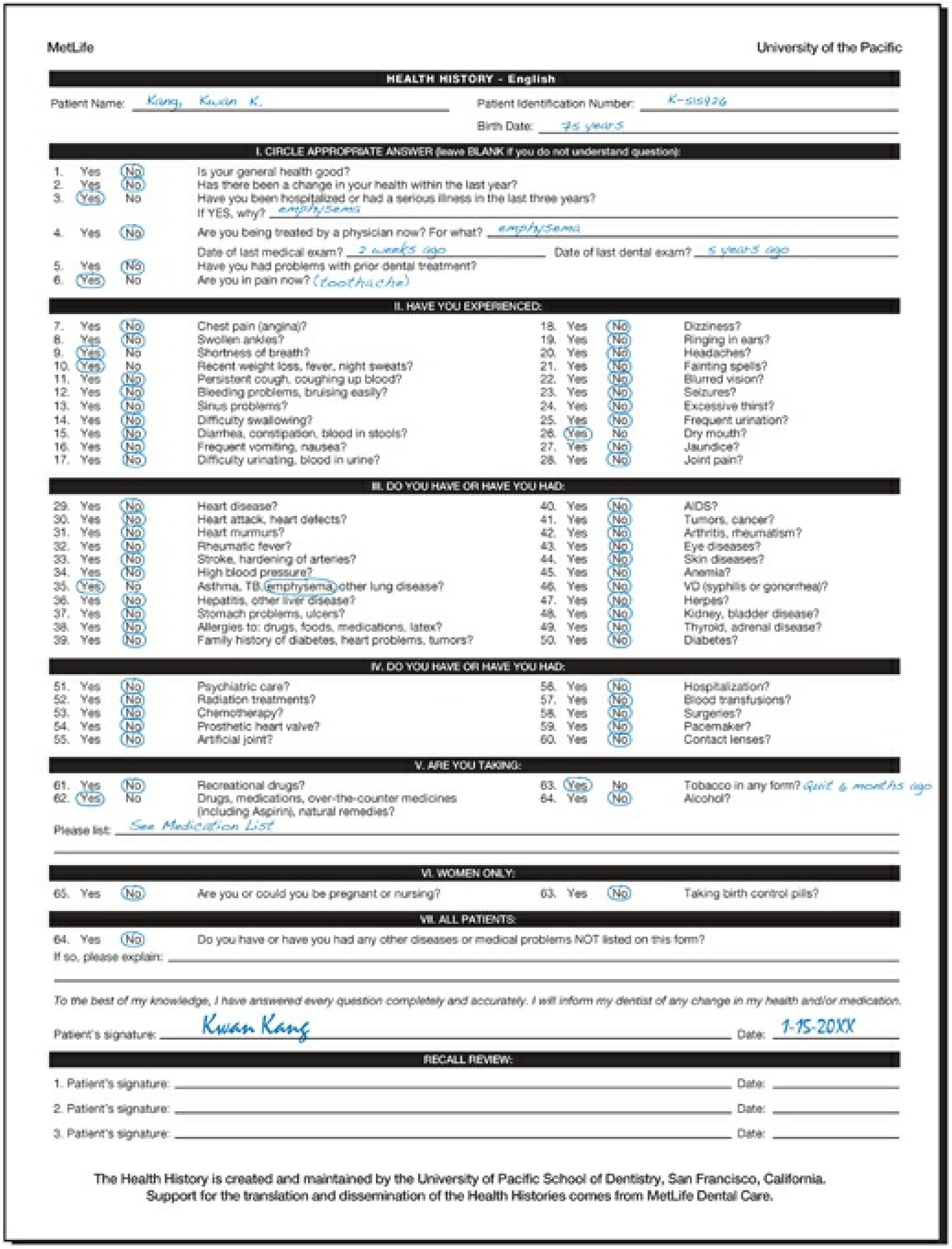

A
Right
Left
B
C

FIGURE 18-40A–C Radiographs for fictitious patient J.

SECTION 6 • Fictitious Patient K, Kwan Kang



MetLife
University of the Pacific

HEALTH HISTORY - English

Patient Name: Kang, Kwan K.
Patient Identification Number: K-515926
Birth Date: 75 years

I. CIRCLE APPROPRIATE ANSWER (leave BLANK if you do not understand question):

1. Yes [✓ No] Is your general health good?
2. Yes [✓ No] Has there been a change in your health within the last year?
3. [✓ Yes] No Have you been hospitalized or had a serious illness in the last three years?
If YES, why? emphysema
4. Yes [✓ No] Are you being treated by a physician now? For what? emphysema
Date of last medical exam? 2 weeks ago Date of last dental exam? 5 years ago
5. Yes [✓ No] Have you had problems with prior dental treatment?
6. [✓ Yes] No Are you in pain now? (toothache)

II. HAVE YOU EXPERIENCED:

7.	Yes [✓ No]	Chest pain (angina)?	18.	Yes [✓ No]	Dizziness?
8.	Yes [✓ No]	Swollen ankles?	19.	Yes [✓ No]	Ringing in ears?
9.	[✓ Yes] No	Shortness of breath?	20.	Yes [✓ No]	Headaches?
10.	[✓ Yes] No	Recent weight loss, fever, night sweats?	21.	Yes [✓ No]	Fainting spells?
11.	Yes [✓ No]	Persistent cough, coughing up blood?	22.	Yes [✓ No]	Blurred vision?
12.	Yes [✓ No]	Bleeding problems, bruising easily?	23.	Yes [✓ No]	Seizures?
13.	Yes [✓ No]	Sinus problems?	24.	Yes [✓ No]	Excessive thirst?
14.	Yes [✓ No]	Difficulty swallowing?	25.	Yes [✓ No]	Frequent urination?
15.	Yes [✓ No]	Diarrhea, constipation, blood in stools?	26.	[✓ Yes] No	Dry mouth?
16.	Yes [✓ No]	Frequent vomiting, nausea?	27.	Yes [✓ No]	Jaundice?
17.	Yes [✓ No]	Difficulty urinating, blood in urine?	28.	Yes [✓ No]	Joint pain?

III. DO YOU HAVE OR HAVE YOU HAD:

29.	Yes [✓ No]	Heart disease?	40.	Yes [✓ No]	AIDS?
30.	Yes [✓ No]	Heart attack, heart defects?	41.	Yes [✓ No]	Tumors, cancer?
31.	Yes [✓ No]	Heart murmurs?	42.	Yes [✓ No]	Arthritis, rheumatism?
32.	Yes [✓ No]	Rheumatic fever?	43.	Yes [✓ No]	Eye diseases?
33.	Yes [✓ No]	Stroke, hardening of arteries?	44.	Yes [✓ No]	Skin diseases?
34.	Yes [✓ No]	High blood pressure?	45.	Yes [✓ No]	Anemia?
35.	[✓ Yes] No	Asthma, TB, [✓ emphysema], other lung disease?	46.	Yes [✓ No]	VD (syphilis or gonorrhea)?
36.	Yes [✓ No]	Hepatitis, other liver disease?	47.	Yes [✓ No]	Herpes?
37.	Yes [✓ No]	Stomach problems, ulcers?	48.	Yes [✓ No]	Kidney, bladder disease?
38.	Yes [✓ No]	Allergies to: drugs, foods, medications, latex?	49.	Yes [✓ No]	Thyroid, adrenal disease?
39.	Yes [✓ No]	Family history of diabetes, heart problems, tumors?	50.	Yes [✓ No]	Diabetes?

IV. DO YOU HAVE OR HAVE YOU HAD:

51.	Yes [✓ No]	Psychiatric care?	56.	Yes [✓ No]	Hospitalization?
52.	Yes [✓ No]	Radiation treatments?	57.	Yes [✓ No]	Blood transfusions?
53.	Yes [✓ No]	Chemotherapy?	58.	Yes [✓ No]	Surgeries?
54.	Yes [✓ No]	Prosthetic heart valve?	59.	Yes [✓ No]	Pacemaker?
55.	Yes [✓ No]	Artificial joint?	60.	Yes [✓ No]	Contact lenses?

V. ARE YOU TAKING:

61.	Yes [✓ No]	Recreational drugs?	63.	[✓ Yes] No	Tobacco in any form? Quit 6 months ago
62.	[✓ Yes] No	Drugs, medications, over-the-counter medicines (including Aspirin), natural remedies?	64.	Yes [✓ No]	Alcohol?

Please list: See Medication List

VI. WOMEN ONLY:

65.	Yes [✓ No]	Are you or could you be pregnant or nursing?	63.	Yes [✓ No]	Taking birth control pills?

VII. ALL PATIENTS:

64. Yes [✓ No] Do you have or have you had any other diseases or medical problems NOT listed on this form?
If so, please explain:

To the best of my knowledge, I have answered every question completely and accurately. I will inform my dentist of any change in my health and/or medication.

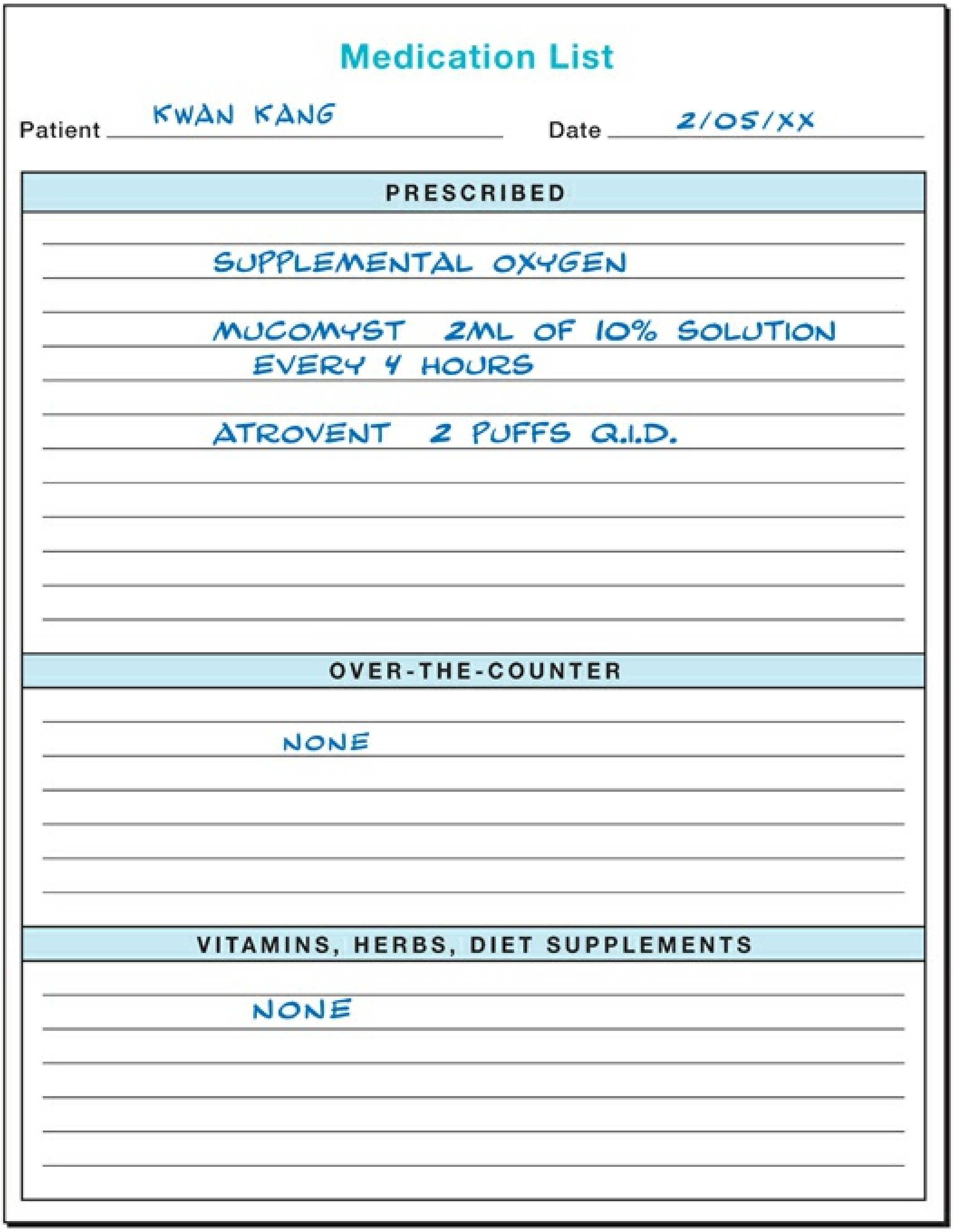
Patient's signature: Kwan Kang Date: 1-15-20XX

RECALL REVIEW:

1. Patient's signature: Date:
2. Patient's signature: Date:
3. Patient's signature: Date:

The Health History is created and maintained by the University of Pacific School of Dentistry, San Francisco, California.
Support for the translation and dissemination of the Health Histories comes from MetLife Dental Care.

FIGURE 18-41 Medical history for fictitious patient K.



Medication List

Patient KWAN KANG Date 2/05/XX

PRESCRIBED

SUPPLEMENTAL OXYGEN

MUCOMYST 2ML OF 10% SOLUTION
EVERY 4 HOURS

ATROVENT 2 PUFFS Q.I.D.

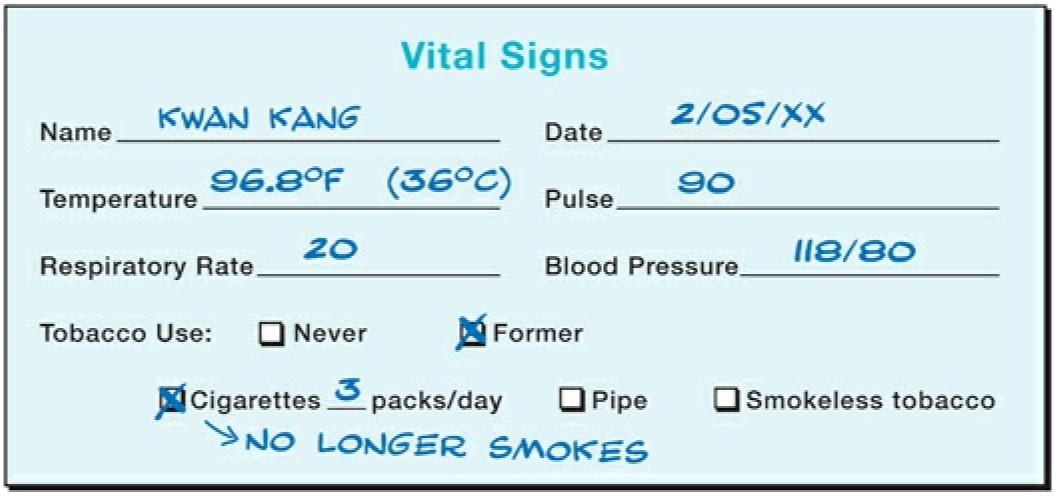
OVER-THE-COUNTER

NONE

VITAMINS, HERBS, DIET SUPPLEMENTS

NONE

FIGURE 18-42 Medication list for fictitious patient K.



Vital Signs

Name KWAN KANG Date 2/05/XX

Temperature 96.8°F (36°C) Pulse 90

Respiratory Rate 20 Blood Pressure 118/80

Tobacco Use: ☐ Never ☒ Former

☒ Cigarettes 3 packs/day ☐ Pipe ☐ Smokeless tobacco

→ NO LONGER SMOKES

FIGURE 18-43 Vital signs findings for fictitious patient K.

Finding:
Location: left temporal region
Size: 1 cm in diameter

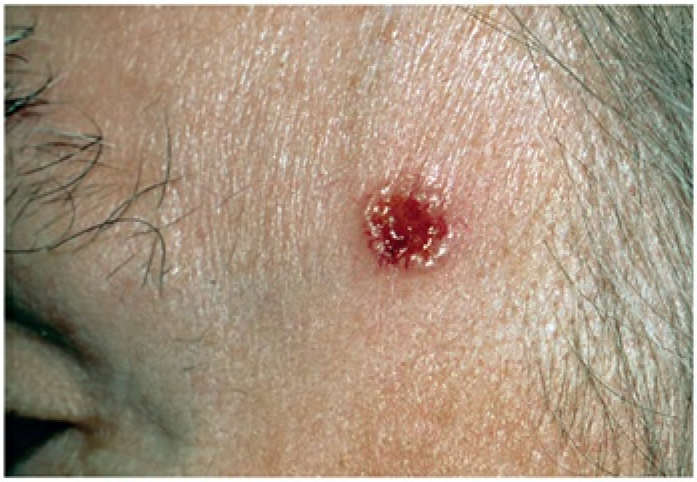


FIGURE 18-44 Finding for fictitious patient K.

Finding:
Location: ventral surface of tongue, to right of midline
Size: 6 mm in diameter

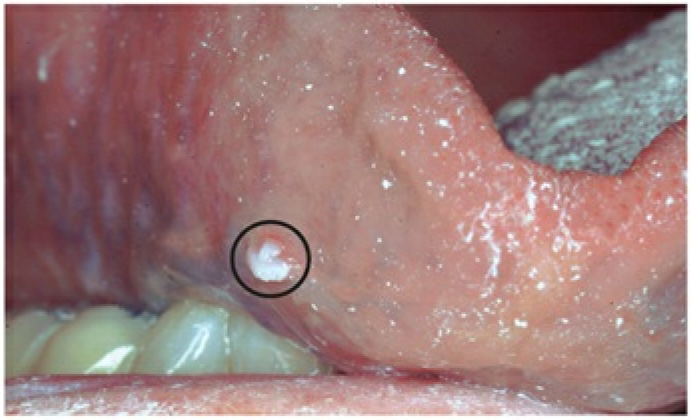


FIGURE 18-45 Finding for fictitious patient K.

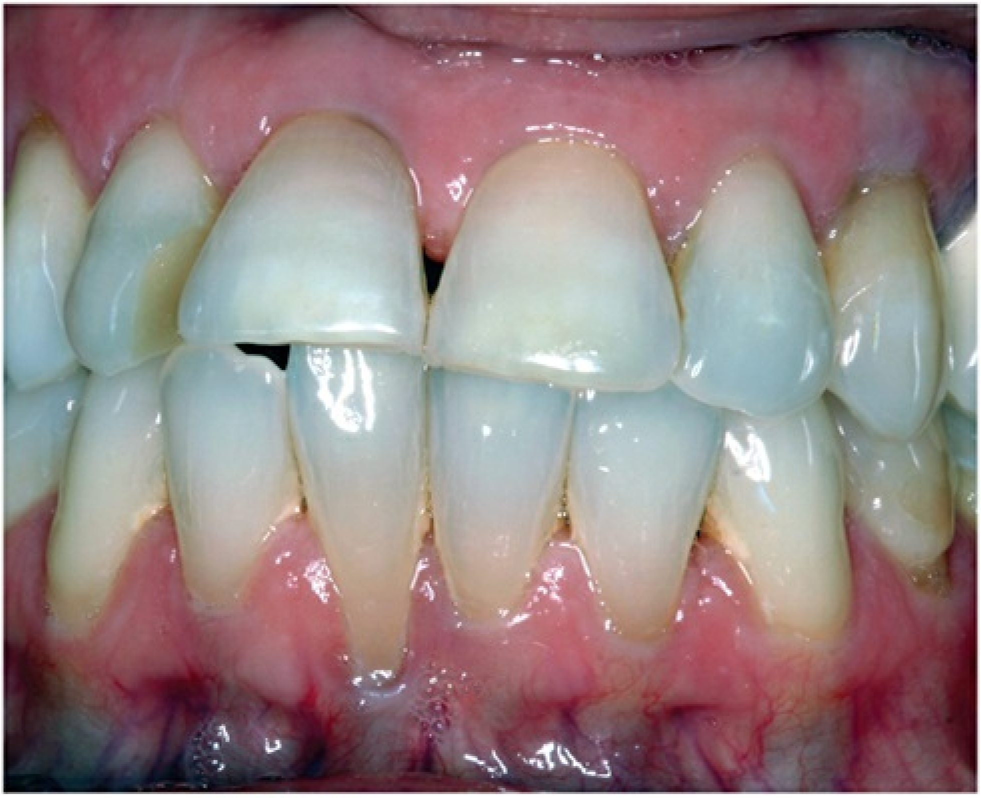


FIGURE 18-46 Finding for fictitious patient K.

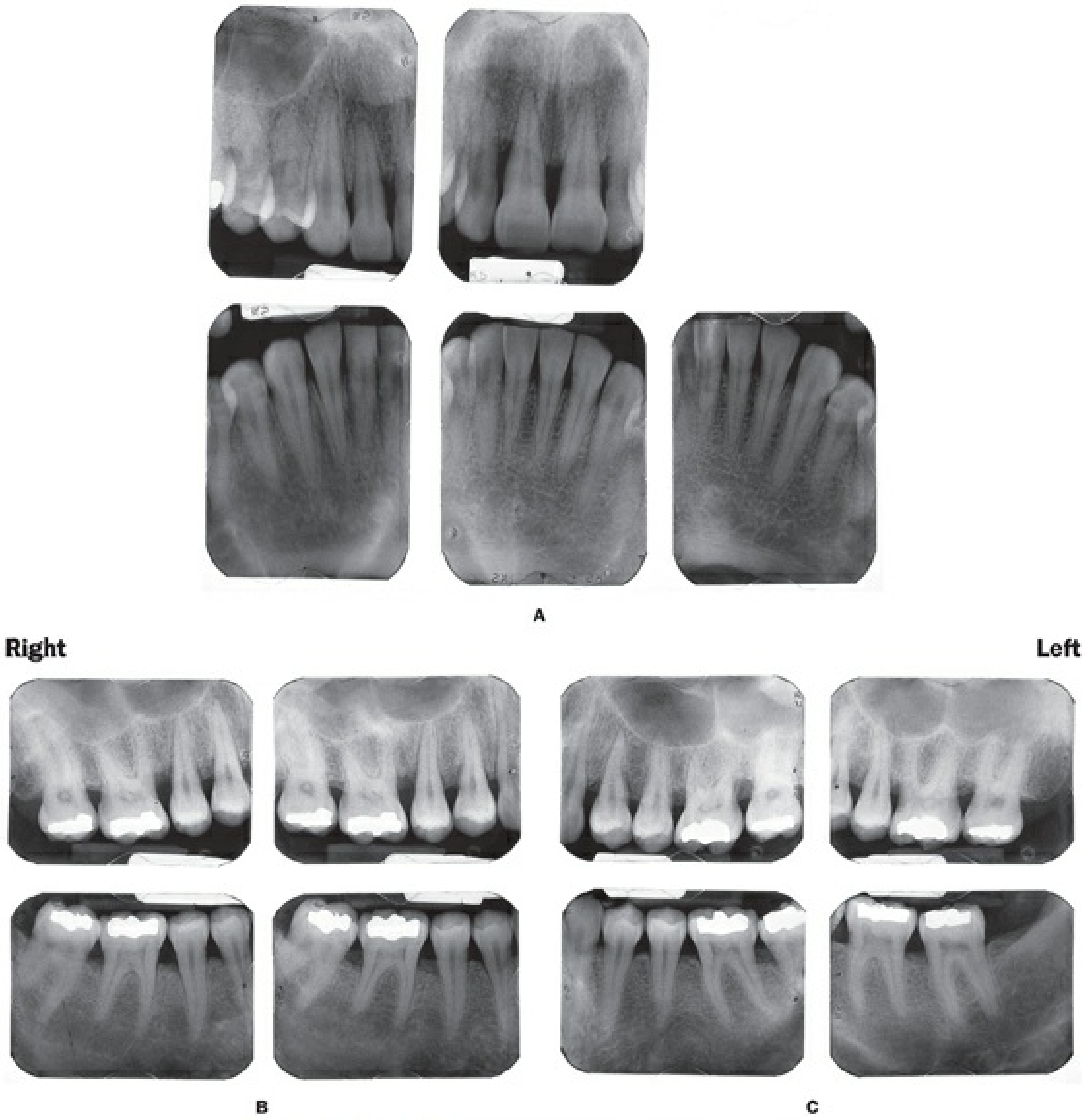


FIGURE 18-47A–C Radiographs for fictitious patient K.

SECTION 7 • The Human Element

Ethical Dilemma

THE NEW PATIENT

You have just seated Frasier Fairhall, who is a new patient in your group practice. Mr. Fairhall is a 57-year-old male with a chief complaint of "bleeding gums." He states that his last dental visit was approximately 5 years ago to repair a broken filling.

The first thing you notice as you review Mr. Fairhall's medical history responses is the apparent strong smell of alcohol on his breath. As you observe the patient during the discussion, you note that his face is red, his breathing is heavy, and he seems a bit disoriented.

Mr. Fairhall's last physical examination was approximately 10 years ago, although he states that he was treated for hepatitis 2 years ago. Although he answered "no" to question 61 on the written health history form, he admits to the occasional use of recreational drugs during your verbal review of his medical history.

Something doesn't seem right to you, as you are questioning his cognitive recall for accurate dates. He states that he smokes three packs of cigarettes per day, but his answers to your questions seem somewhat evasive. You are concerned about his blood pressure reading of 158/100 as well as extraoral lesions on his face and an intraoral lesion in the floor of his mouth. However, you are most concerned about his sobriety, treating him in his present condition, and are fearful of his getting into a car and driving following the appointment.

1. Should you treat Mr. Fairhall today?
2. What ethical principles are involved in this scenario?
3. How do you inform/educate Mr. Fairhall about his oral/general health?
4. How can you help Mr. Fairhall quit smoking?

SECTION 8 • **Skill Check**

Communication Skill Checklist: Communication Role-Plays

Student: ______________________ Evaluator: ______________________

Date: ______________________

DIRECTIONS:
Play the role of the clinician in one or more role-plays selected by your instructor.

ROLES:

- **Student 1** = Plays the role of the patient.
- **Student 2** = Plays the role of the clinician.
- **Student 3 or instructor** = Plays the role of the clinic instructor near the end of the role-play.

DIRECTIONS FOR STUDENT: Use **Column S**; evaluate your skill level as **S** (satisfactory) or **U** (unsatisfactory).

DIRECTIONS FOR EVALUATOR: Use **Column E**. Indicate **S** (satisfactory) or **U** (unsatisfactory). In the optional grade percentage calculation, each **S** equals 1 point, and each **U** equals 0 point.

CRITERIA:	S	E
Uses appropriate nonverbal behavior such as maintaining eye contact, sitting at the same level as the patient, nodding head when listening to patient, etc.		
Interacts with the patient as a peer, avoids a condescending approach. Collaborates with the patient and provides advice. Gains the patient’s trust and cooperation.		
Reports all notable findings to the patient and explains whether the findings are normal or outside the normal range and the significance of these findings. Communicates using common, everyday words. Avoids dental terminology.		
Listens attentively to the patient’s comments.		

Respects the patient’s point of view.		
Listens attentively to the patient’s questions. Encourages patient questions. Clarifies for understanding, when necessary.		
Answers the patient’s questions fully and accurately. Checks for understanding by the patient. Clarifies information.		
Accurately communicates the findings to the clinical instructor. Discusses the implications for dental treatment. Uses correct medical and dental terminology.		
OPTIONAL GRADE PERCENTAGE CALCULATION		
Using the **E** column, assign a point value of 1 for each **S** and 0 for each **U**. Total the sum of the “**S**”s and divide by the total points possible to calculate a percentage grade.		

GLOSSARY

A

Abdominal aortic aneurysm—occurs when part of the aorta—the main artery of the body—becomes weakened. If left untreated, the aorta can burst.

Addiction—a chronic dependence on a substance, such as smoking, despite adverse consequences.

Aneroid manometer—a round dial-type gauge to indicate pressure readings.

Angle's classification—a system for classifying the relationship of the mandibular teeth to the maxillary teeth.

Antecubital fossa—the hollow or depressed area in the underside of the arm at the bend of the elbow.

Aphasia—a disorder that results from damage to language centers of the brain. It can result in a reduced ability to understand what others are saying, to express ideas, or to be understood.

Asymptomatic—a condition or disease that has no symptoms that are detectable to the patient; an example of an asymptomatic condition is hypertension.

Attention deficit hyperactivity disorder (ADHD)—a developmental disorder believed to be caused primarily by genetic factors. Patients with ADHD may experience problems such as difficulty with sustained attention, excessive activity, and increased distractibility.

Auscultation—the act of listening for sounds within the body to evaluate the condition of the heart, blood vessels, lungs, or other organs.

Auscultatory gap—a period of abnormal silence that occurs between the

Korotkoff phases that are heard during the measurement of blood pressure.

B

Blood pressure—pressure exerted against the blood vessel walls as blood flows through them. *Also see systolic pressure and diastolic pressure.*

Blood pressure cuff—an airtight, flat, inflatable bladder covered by a cloth sheath that is used when measuring blood pressure.

Brachial artery—the main artery of the upper arm; it divides into the radial and ulnar arteries at the elbow. The brachial artery is used when taking blood pressure.

Bulla—a large blister filled with clear fluid; usually over 1 cm in diameter; commonly seen in burns.

C

Cancer—a term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissues and spread through the bloodstream and lymphatic system to other parts of the body. *Also see head and neck cancer*.

Capacity for consent—the ability of a patient to fully understand the proposed treatment, possible risks, unanticipated outcomes, and alternative treatments—takes into account the patient's age, mental capacity, and language comprehension.

Carcinogen—a chemical or other substance that causes cancer.

Celsius temperature scale—the temperature scale used in most countries for measuring body temperature. *Also see Fahrenheit temperature scale*.

Chewing tobacco—also known as spit tobacco, chew, dip, and chaw—is tobacco cut for chewing. *Also see smokeless tobacco and snuff*.

Chronic obstructive pulmonary disease (COPD)—a lung disease in which the airways in the lungs produce excess mucus resulting in frequent coughing. Smoking accounts for 80% to 90% of the risk for developing COPD.

Circumvallate papillae—the 8 to 12 large papillae that form a V-shaped row on the tongue.

Clinical Practice Guideline for Treating Tobacco Use and Dependence—guidelines published by the U.S. Department of Health and Human Services are considered the benchmark for cessation techniques and treatment delivery strategies. The Clinical Practice Guideline may be downloaded at http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

Closed questions—questions that can be answered with a yes or no, or a one- or two-word response, and do not provide an opportunity for the patient to elaborate.

Communication—the exchange of information between individuals.

Coronary artery disease (CAD)—a thickening of the coronary arteries—is the most common type of heart disease. CAD results in a narrowing of the arteries so that the supply of blood and oxygen to the heart is restricted or blocked. Smoking is the major risk factor for CAD.

Cuff—*see blood pressure cuff*.

Cultural awareness—the development of sensitivity and cross-cultural understanding.

Cultural competency—the application of cultural knowledge, behaviors, and interpersonal and clinical skills to enhance a dental health care provider's effectiveness in managing patient care.

Culture—a pattern of learned behavior, values, and beliefs exhibited by a group that shares history and geographic proximity. Culture determines health attitudes, roles, and behaviors of providers and patients.

Culture, high-contact—cultures that prefer 1 in to 4 ft of body space during personal interaction and much contact between people.

Culture, low-contact—cultures that prefer 4 to 12 ft of body space during personal interaction and little, if any, physical contact.

D

Dental health history—a record of the patient's past and present dental experiences.

Diaphragm endpiece—the amplifying device of a stethoscope that is used to hear loud sounds like the blood rushing through the arteries.

Diastolic pressure—the pressure exerted against the vessel walls when the heart relaxes.

Diplomacy—the art of treating people with tact and genuine concern.

Dysarthria—speech problems that are caused by the muscles involved with speaking or the nerves controlling them. Individuals with dysarthria have difficulty expressing certain words or sounds.

E

Empathy—identifying with the feelings or thoughts of another person; an essential factor in effective communication.

Environmental tobacco smoke (ETS)—occurs when nonsmokers inhale a mixture of smoke from a burning cigarette, pipe, or cigar and the smoke exhaled by the smoker. Also known as secondhand smoke or passive smoking.

Estimated systolic pressure—an estimation of the actual systolic blood pressure that is determined by palpating the brachial artery pulse and inflating the cuff until the pulsation disappears. This point at which the pulsation disappears is the estimated systolic pressure.

Extraoral examination—*See head and neck examination*.

F

Fahrenheit temperature scale—the temperature scale used in most countries for measuring body temperature. *Also see Celsius temperature scale*.

Filiform papillae—the long, thin, gray, hairlike papillae that cover the anterior two-thirds of the dorsal surface of the tongue.

Fissure—a linear crack in the top two layers of the skin or mucosa.

Foliate papillae—the three to five large, red, leaflike projections on the lateral border of the posterior third of the tongue.

Fungiform papillae—the broad, round, red, mushroom-shaped papillae of the tongue.

G

Galinstan—the most common alternative to a mercury thermometer.

Glass thermometer—a small glass tube with a bulb at the end containing mercury that is used to take an oral temperature. When the thermometer bulb is warmed, the mercury moves up the glass tube.

Goiter—an enlarged thyroid gland.

H

Head and neck cancer—cancer that arises in the head or neck region (in the nasal cavity, sinuses, lip, mouth, salivary glands, throat, or larynx [voice box]).

Head and neck examination—a physical examination technique consisting of a systematic visual inspection of the skin of the head and neck combined with palpation of the lymph nodes, salivary glands, thyroid gland, and temporomandibular joint.

Health literacy—the ability of an individual to understand and act on health information and advice.

Hookah—a large water pipe with a hose used to smoke flavored tobacco.

Hypertension—high blood pressure; blood pressure that stays at or above 140/90 mm Hg.

Hypertensive—an individual with abnormally high blood pressure.

Hypotensive—an individual with abnormally low blood pressure.

I

Idiom—a distinctive, often colorful expression in which the meaning cannot be understood from the combined of its individual words (e.g., the phrase “to kill two birds with one stone”).

Informed consent—involves providing complete and comprehensive information about patient assessment procedures and planned dental hygiene treatments so that the patient can make a well-informed decision about either accepting or rejecting the proposed treatment. Informed consent involves not only informing the patient about the expected successful outcomes of assessment procedures but also the possible risks, unanticipated outcomes, and alternative treatments as well. The patient also should be made aware of the costs for each of the options involved, which may influence the patient's ultimate decision. *Also see capacity for consent and informed refusal*.

Informed refusal—the patient's right to refuse one or more of the recommended assessment or treatment procedures.

Inspection—the systematic visual examination of a patient's general appearance, skin, or a part of the body to observe its condition.

Intraoral examination—*see oral examination*.

K

Korotkoff sounds—the series of sounds that is heard as the pressure in the sphygmomanometer cuff is released during the measurement of arterial blood pressure.

L

Laryngectomy—the surgical removal of the voice box due to cancer; affects approximately 9,000 individuals each year, most are older adults.

Lesion of the soft tissue—an area of abnormal-appearing skin or mucosa that does not resemble the soft tissue surrounding it; such as a variation in color, texture, or form of an area of skin or mucosa.

Literacy—*See health literacy*.

Lymph—a clear fluid that carries nutrients and waste materials between the body tissues and the bloodstream.

Lymphadenopathy—the term for enlarged lymph nodes.

Lymphatic system—a network of lymph nodes connected by lymphatic vessels that plays an important part in the body's defense against infection.

Lymph nodes—small, bean-shaped structures that filter out bacteria, fungi, viruses, and other unwanted substances to eliminate them from the body.

M

Macule—a small, flat, discolored spot on the skin or mucosa that does not include a change in skin texture or thickness; less than 1 cm in size; the discoloration can be brown, black, red, or lighter than the surrounding skin.

Malocclusion—the improper positioning of the teeth and jaws.

Manometer—a gauge that measures the air pressure in millimeters used when measuring blood pressure. *Also see aneroid manometer and mercury manometer*.

Medical alert box—a specified area (such as a box) on the patient chart or computerized record in which medical conditions/diseases or medications that necessitate modifications or special precautions for treatment are clearly marked.

Mercury manometer—a device with a column of mercury to indicate pressure readings.

Metastasis—the spread of cancer from the original tumor site to other parts of the body by tiny clumps of cells transported by the blood or lymphatic system.

Mixed dentition—a combination of primary and permanent teeth in a dentition.

Multi-Language Health History Project—an initiative of the University of the Pacific Dental School (UOP) to address the needs of patients and dental health care providers who do not speak the same language.

N

Nodule—a raised, marblelike lesion detectable by touch, usually 1 cm or more in diameter; it can be felt as a hard mass distinct from the tissue surrounding it.

Nonverbal communication—the transfer of information between persons without using spoken, written, or sign language.

O

Occlusion—the relationship of the teeth to each other when the incisal and occlusal surfaces of the mandibular arch contact those of the maxillary arch.

Open-ended questions—questions that require more than a one-word response and allow the patient to express ideas, feelings, and opinions.

Oral examination—a physical examination technique consisting of the systemic inspection of the oral structures.

Overbite—the amount of vertical overlap that occurs when the maxillary incisors vertically overlap the mandibular incisors.

Overjet—the horizontal distance between the incisal edges of the maxillary teeth and the mandibular teeth.

P

Palpation—the examination of a part of the body by using the fingertips to move or compress a structure against the underlying tissue. The most sensitive part of the hand—the fingertips—should be used for palpation.

Papillae—the taste sensitive structures of the tongue. *Also see filiform papillae, fungiform papillae, foliate papillae, and circumvallate papillae*.

Papule—a solid, raised lesion that is usually less than 1 cm in diameter; may be any color.

Parotid glands—the largest of the salivary glands; each gland is located between the ear and the jaw.

Passive smoking—*see environmental tobacco smoke*.

Patch—a flat, discolored spot on the skin or mucosa; larger than 1 cm in size.

Patient-centered care—an approach to health care that emphasizes respecting the patient as a whole, unique individual. A patient-centered approach to patient care recognizes that there are two experts present during the interaction between a health care provider and patient. One expert is the health care provider who has clinical knowledge. The second expert is the patient who brings experience, beliefs, and values to the dental treatment planning process.

Peripheral vascular disease (PVD)—a vascular disease that occurs when fat and cholesterol build up on the walls of the arteries blocking the supply blood to the arms and legs.

Personal filters—when involved in the act of communication, factors in a person's life, such as his or her life experiences, age, gender, and cultural diversity, that act as filters to incoming information. For this reason, the message received may not be the message sent. Normal human biases or personalized filters create major barriers to effective communication.

Personal space—the physical distance maintained between persons; a powerful concept that we use in determining the meaning of messages conveyed by another person.

Plaque—a superficial raised lesion often formed by the coalescence (joining) of closely grouped papules; more than 1 cm in diameter; a plaque differs from a nodule in its height; a plaque is flattened and a nodule is a bump.

Presbycusis—the loss of hearing that gradually occurs in most individuals as they grow old.

Proxemics—the study of the distance an individual maintains from other persons and how this separation relates to environmental and cultural factors.

Pulse points—the sites on the surface of the body where rhythmic beats of an artery can be easily felt.

Pulse rate—an indication of an individual's heart rate. Pulse rate is measured by counting the number of rhythmic beats that can be felt over an artery in 1 minute.

Pustule—a small, raised lesion filled with pus.

Q

Quitlines—toll-free telephone centers staffed by trained smoking cessation experts.

R

Racial group—a group of people who share socially constructed differences based on visible characteristics or regional linkages.

Radial artery—a branch of the brachial artery beginning below the elbow and extending down the forearm on the thumb side of the wrist and into the hand.

Reflection—the act of repeating something that someone has just said.

Respiratory rate—measured by counting the number of times that a patient's chest rises in 1 minute.

Risk factors—conditions that increase a person's chances of getting a disease (such as cancer).

S

Secondhand smoke—occurs when nonsmokers inhale a mixture of smoke from a burning cigarette, pipe, or cigar and the smoke exhaled by the smoker. *Also see environmental tobacco smoke*.

Service animal—any guide dog or other animal that is trained to provide assistance to a person with a disability.

Smokeless tobacco—tobacco that is not smoked but used in another form. Snuff and chewing tobacco are the two main forms of smokeless tobacco in use in the United States and Canada. *Also see chewing tobacco and snuff*.

Smoker's cough—the chronic cough experienced by smokers because smoking impairs the lung's ability to clean out harmful material. Coughing is the body's way of trying to get rid of the harmful material in the lungs.

Snuff—a smokeless tobacco in the form of a powder that is placed between the gingiva and the lip or cheek or inhaled into the nose. *Also see chewing tobacco and smokeless tobacco*.

Soft tissue lesion—*see lesion of the soft tissue.*

Sphygmomanometer—a device used to measure blood pressure consisting of a cuff with an inflatable bladder, a hand bulb with a valve used to inflate and deflate the bladder, and a pressure gauge.

Sphygmomanometer cuff—*see blood pressure cuff.*

Stereotype—an oversimplified, standardized image that one individual uses to categorize other individuals or groups.

Sternomastoid muscle—a long, thick, superficial muscle on each side of the head with its origin on the mastoid process and insertion on the sternum and clavicle (also called the sternocleidomastoid muscle).

Stethoscope—a device that makes sound louder and transfers it to the clinician's ears.

Sublingual glands—the smallest of the three salivary glands; located in the anterior floor of the mouth next to the mandibular canines.

Submandibular glands—the salivary glands located below the jaw toward the back of the mouth.

Systolic pressure—the pressure created by the blood as it presses through and against the vessel walls. *Also see estimated systolic pressure*.

T

Temperature—the measurement of the degree of heat in a living body.

Temporomandibular joint (TMJ)—the joint that connects the mandible to the temporal bone at the side of the head. One of the most complicated joints in the body; it allows the jaw to open and close, move forward and backward, and from side to side.

Territory—the space we consider as belonging to us. The way that people handle space is largely determined by their culture. *Also see culture, low-contact, and culture, high-culture.*

Thermometer—*see glass thermometer*.

Thyroid gland—one of the endocrine glands, secretes thyroid hormone that controls the body's metabolic rate; located in the middle of the lower neck.

Triangulation—the widening of the periodontal ligament space (PDLS) caused by the resorption of bone along either the mesial or distal aspect of the interdental (interseptal) crestal bone as observed on a radiograph.

U

Ulcer—a craterlike lesion of the skin or mucosa where the top two layers of the skin are lost.

V

Verbal communication—the use of spoken, written, or sign language to exchange information between individuals.

Vesicle—a small blister filled with a clear fluid; usually 1 cm or less in diameter.

Vital signs—a person's temperature, pulse, respiration, and blood pressure.

W

Wheal—a raised, somewhat irregular area of localized edema; often itchy, lasting 24 hours or less; usually due to an allergic reaction, such as to a drug or insect bite.

White-coat hypertension—blood pressure that rises above its usual level when it is measured in a health care setting (such as a medical or dental office, where a health care provider may be wearing a white laboratory coat).

Withdrawal symptoms—the unpleasant symptoms experienced by a smoker when trying to quit smoking, such as craving for nicotine, irritability, anger, anxiety, fatigue, depressed mood, difficulty concentrating, restlessness, and sleep disturbance.

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